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【書類名】 図面

【特許】 2002-364979 (14. 12.)

12. 17

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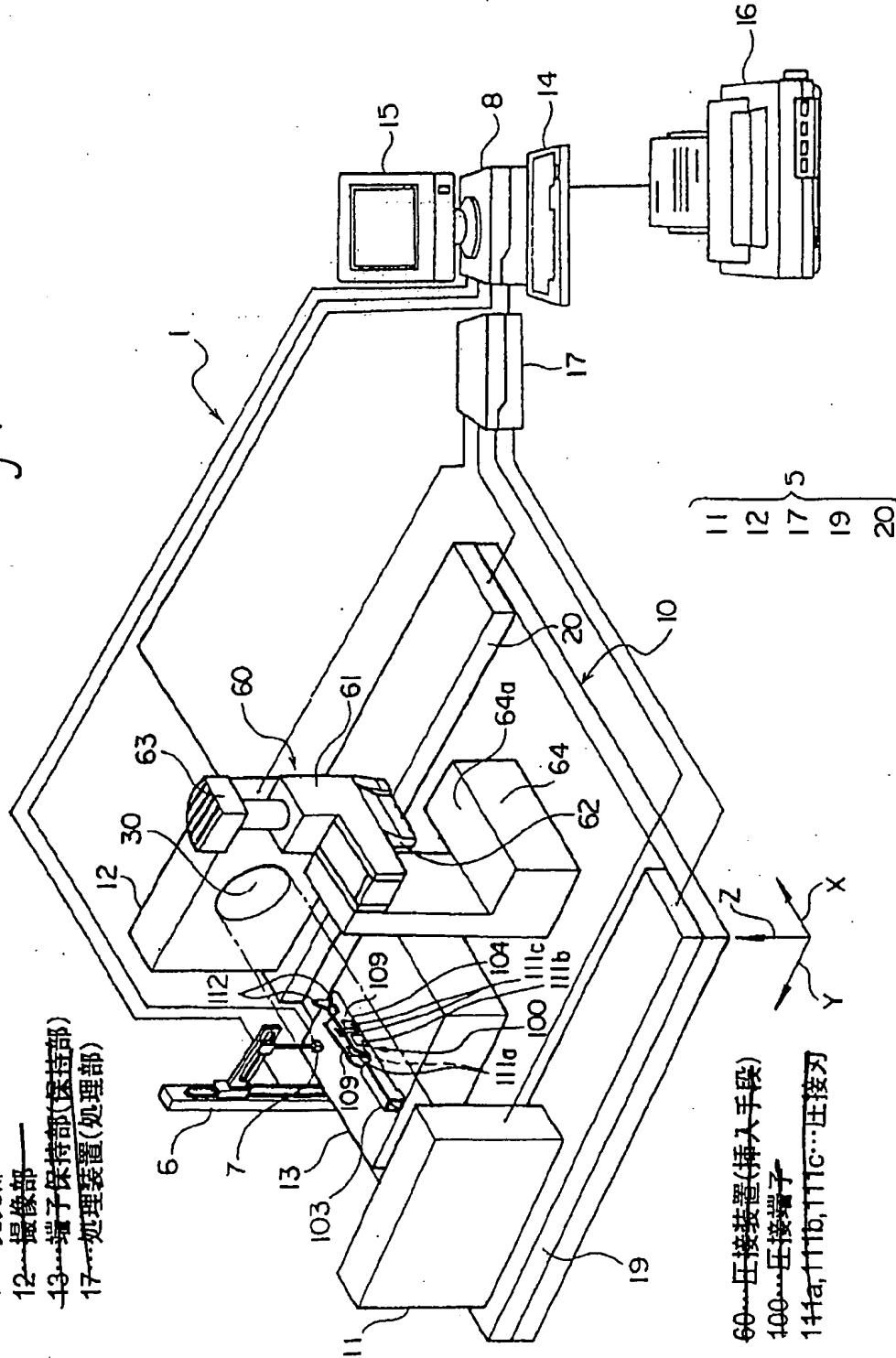
【書類名】

図面

【図1】

Fig. 1

- 1...圧接端子の良否判定装置
- 5...測定装置(測定手段)
- 7...圧電素子(検出子)
- 14...発光部
- 12...撮像部
- 13...端子保持部(保持部)
- 17...処理装置(処理部)



- 60...圧接装置(挿入手段)
- 100...圧接端子
- 144a, 144b, 144c...圧接刃

〔図2〕

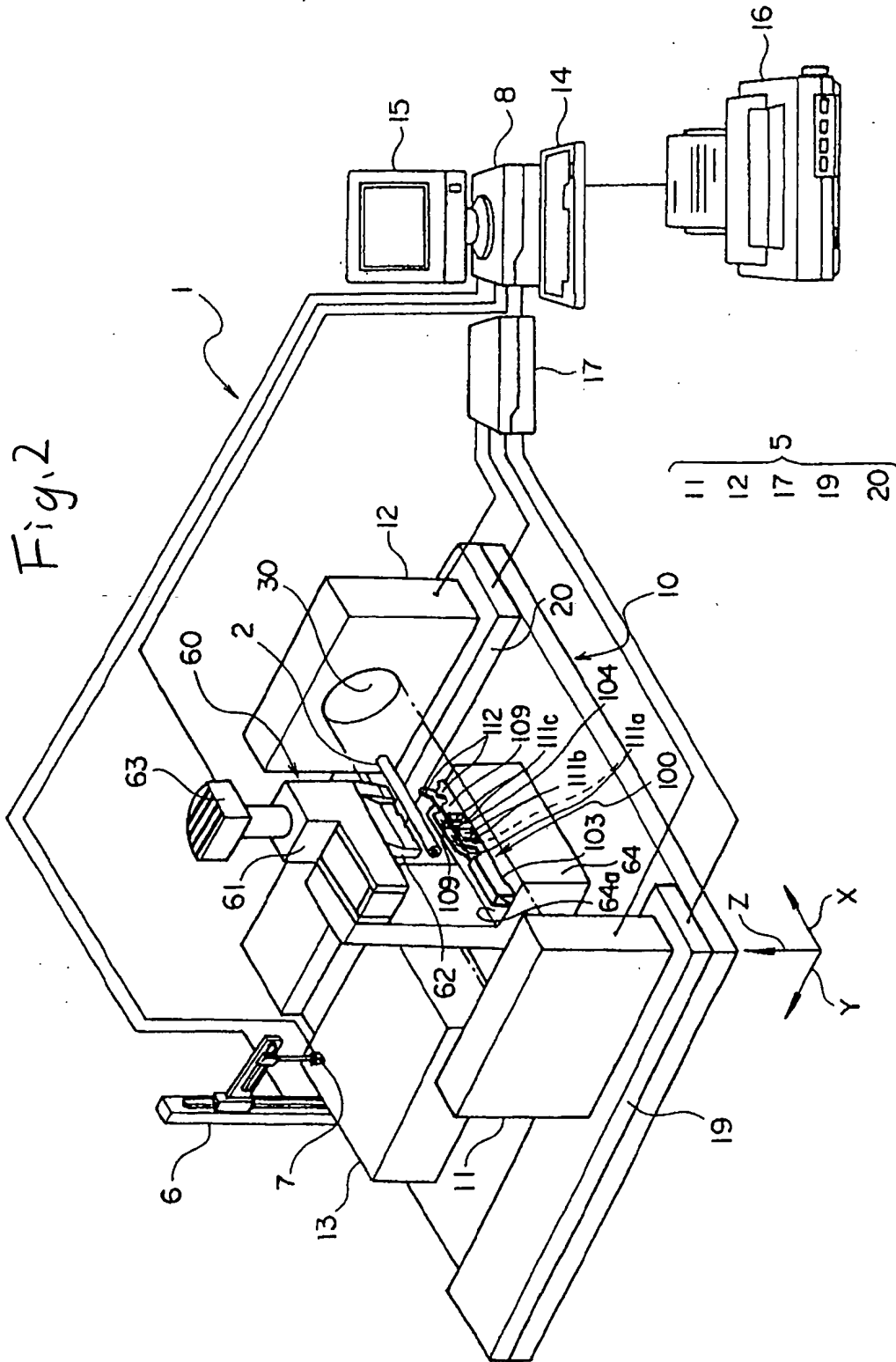
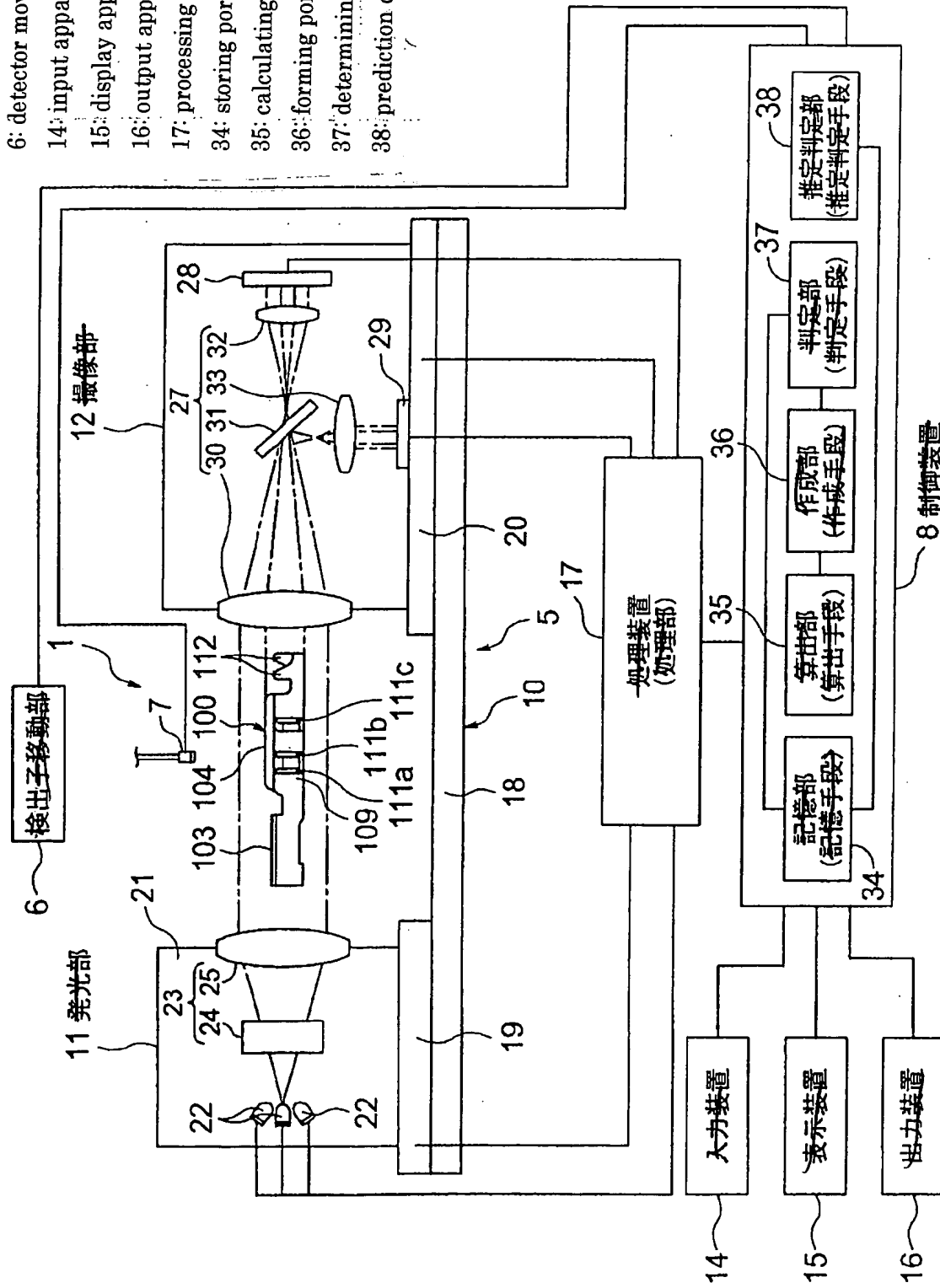


Fig. 3

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- 6: detector moving portion
- 14: input apparatus
- 15: display apparatus
- 16: output apparatus
- 17: processing apparatus
- 34: storing portion
- 35: calculating portion
- 36: forming portion
- 37: determining portion
- 38: prediction determining portion



[図4]

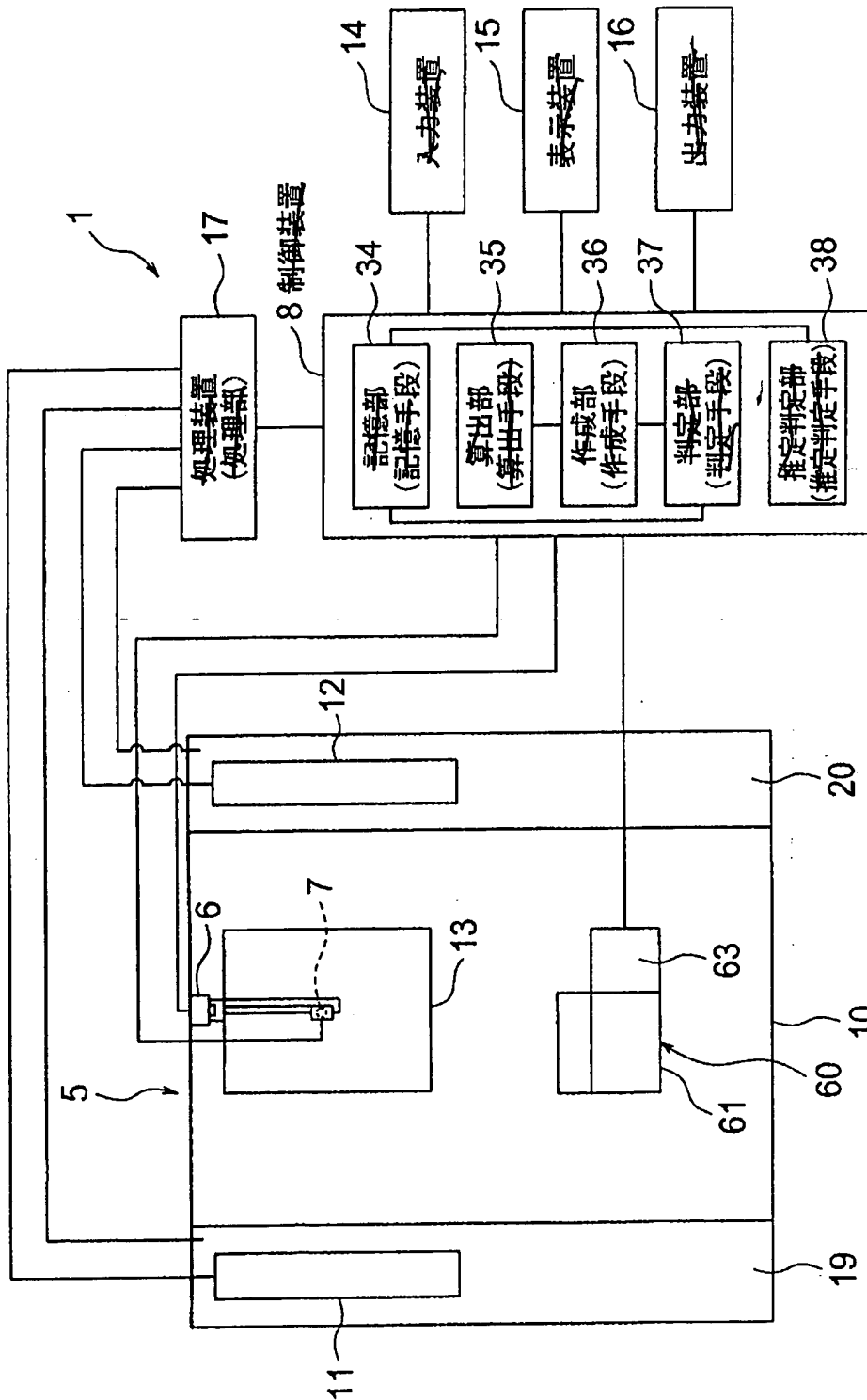


Fig. 4

14: input apparatus

15: display apparatus

16: output apparatus

17: processing apparatus

34: storing portion

35: calculating portion

36: forming portion

37: determining portion

38: prediction determining portion

[書類名] 図面

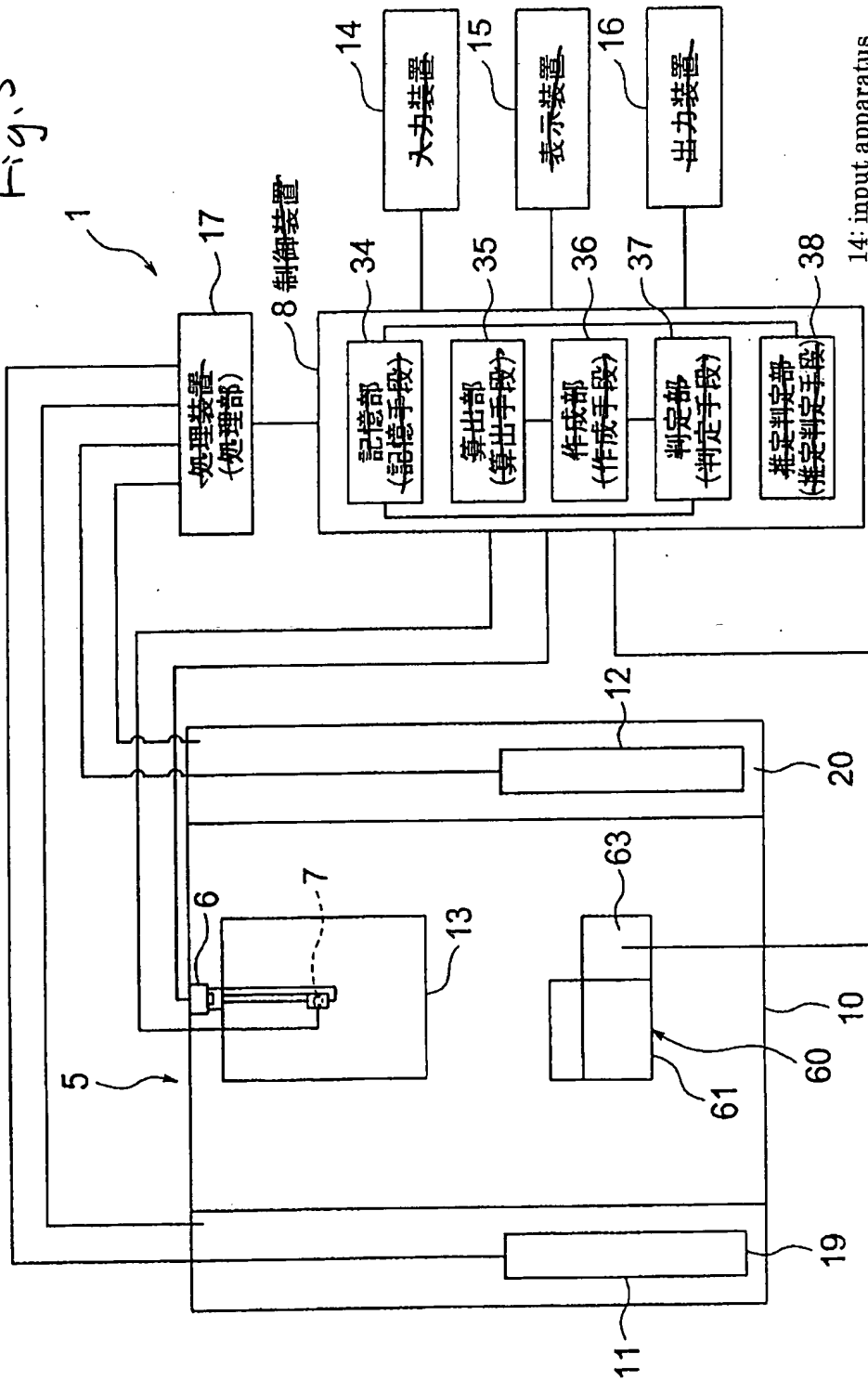
[特許] 2002-364979 (14. 12)

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[図5]

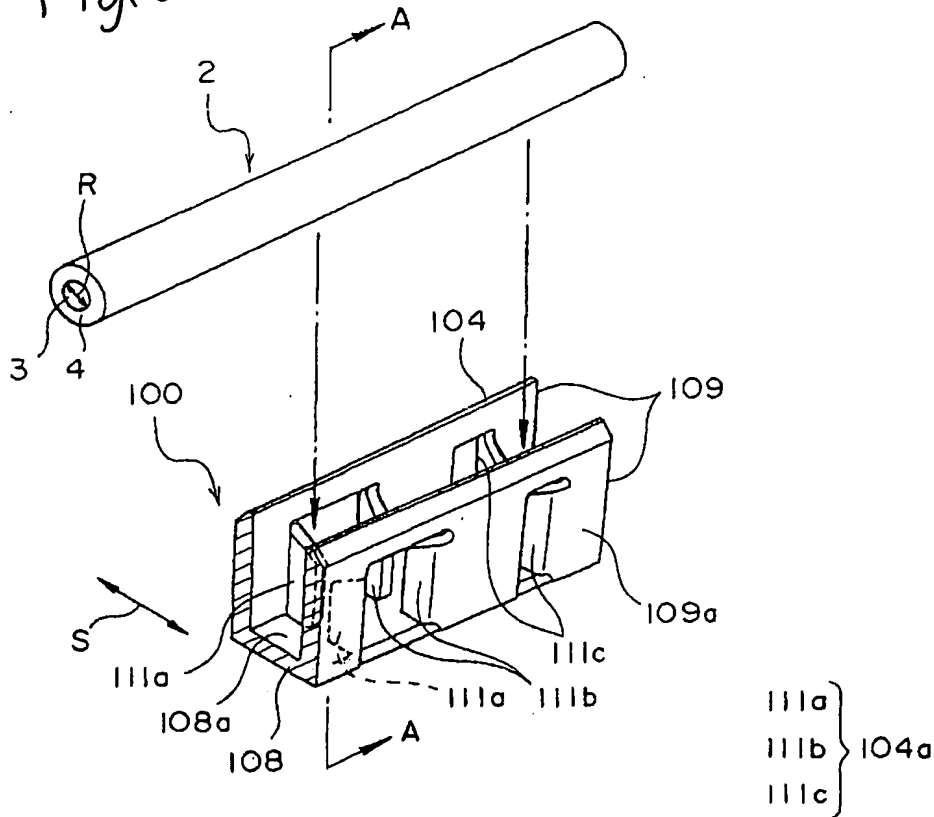
Fig. 5



- 14: input apparatus
- 15: display apparatus
- 16: output apparatus
- 17: processing apparatus
- 34: storing portion
- 35: calculating portion
- 36: forming portion
- 37: determining portion
- 38: prediction determining portion

[図6]

Fig. 6



[図7] Fig. 7

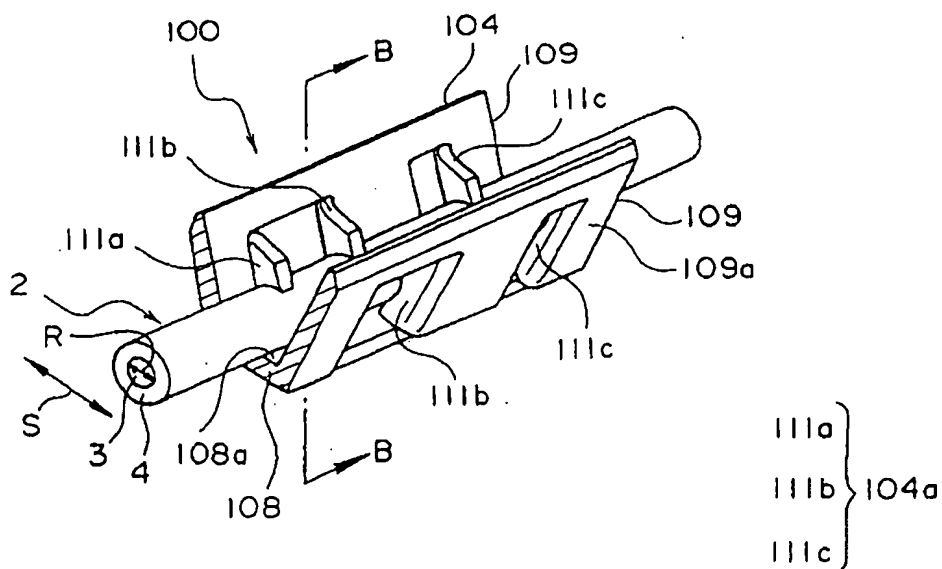


Fig. 8

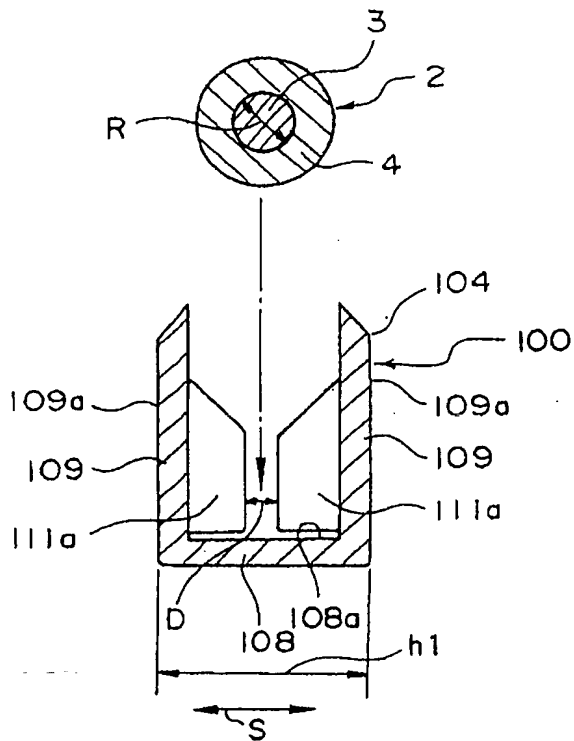
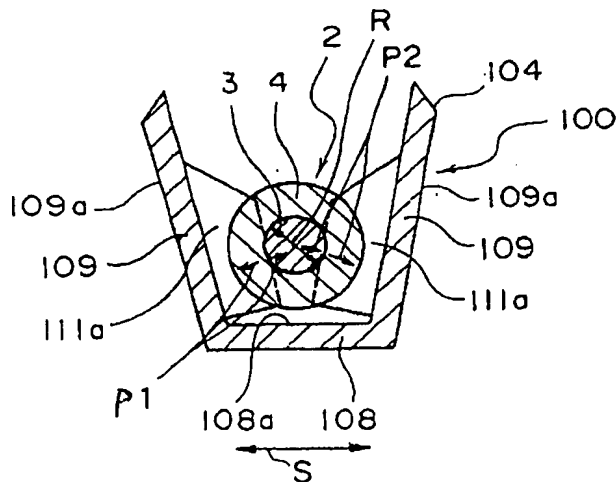
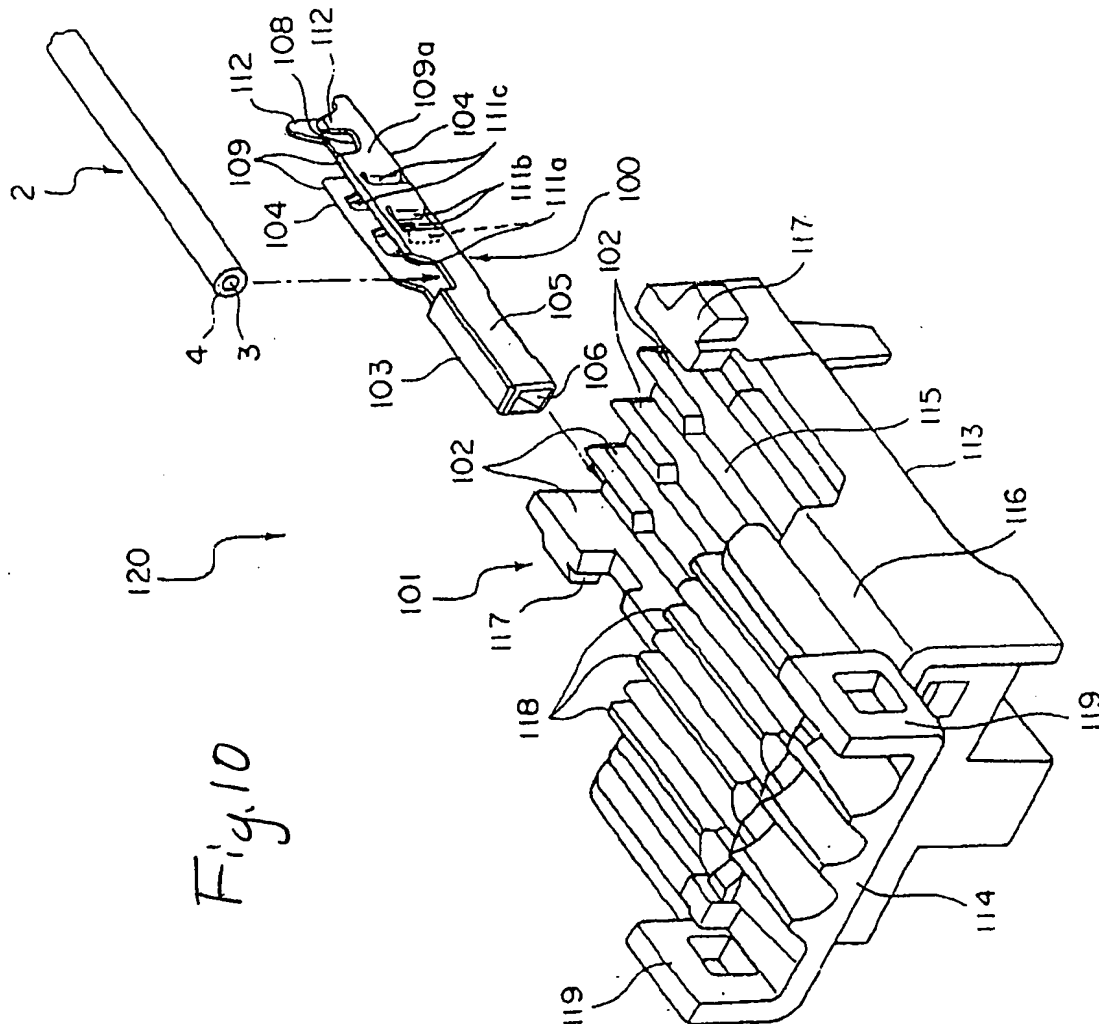


Fig. 9



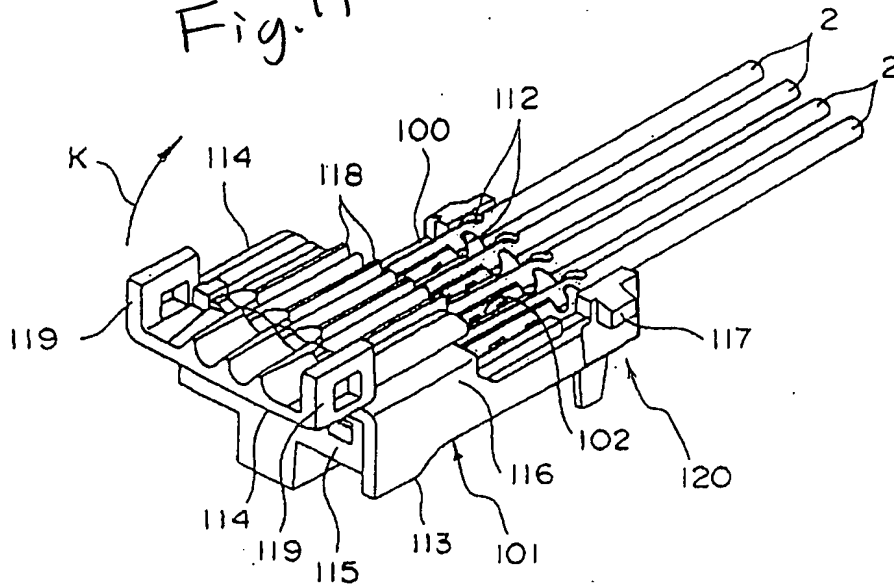




$F_{ig,10}$

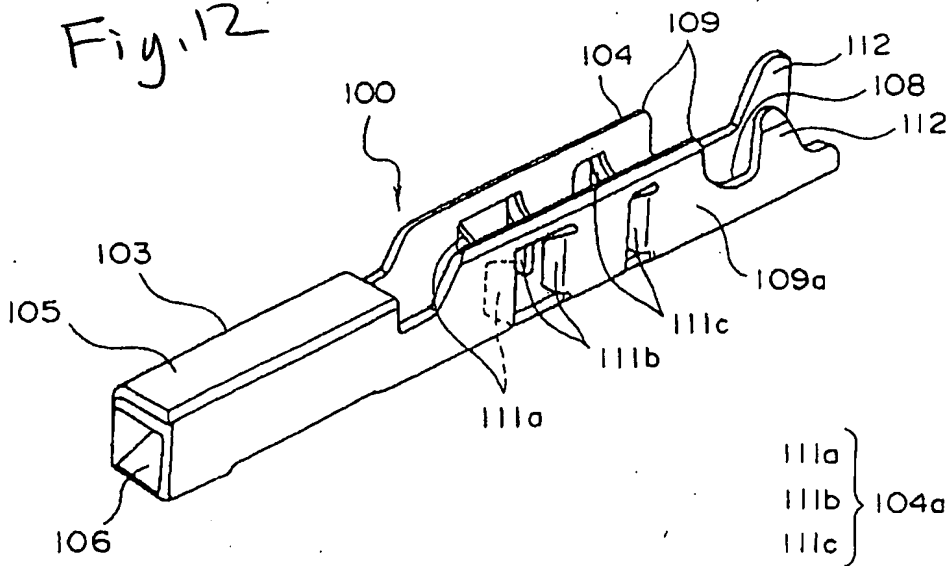
【図11】

Fig. 11



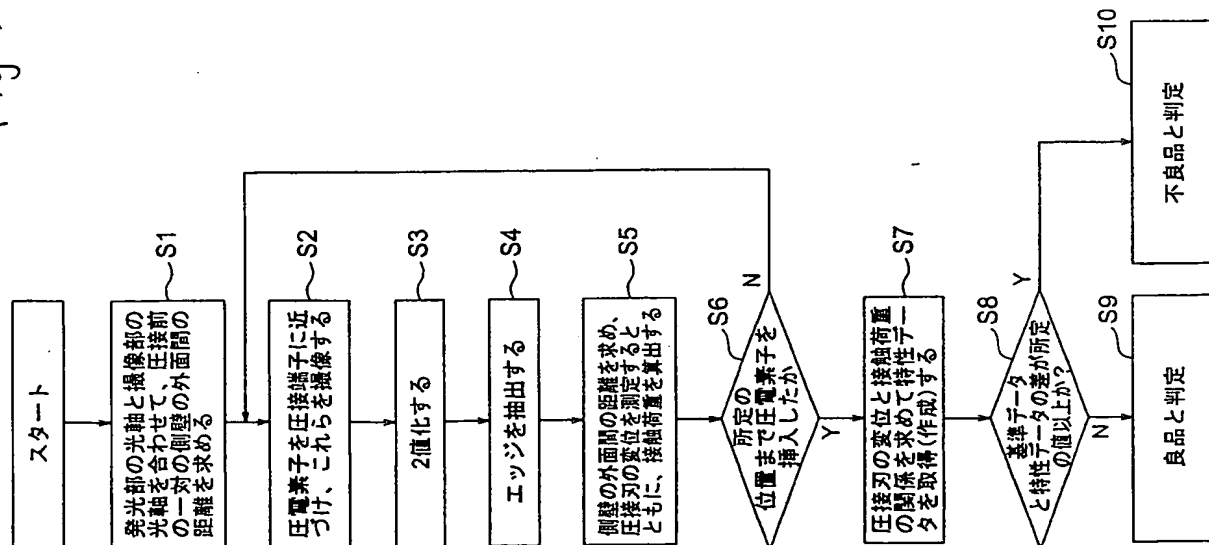
【図12】

Fig. 12



【図13】

Fig.13



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting  
S2: bring piezoelectric element close to press contact terminal and pickup image thereof  
S3: binarizing  
S4: extract edge

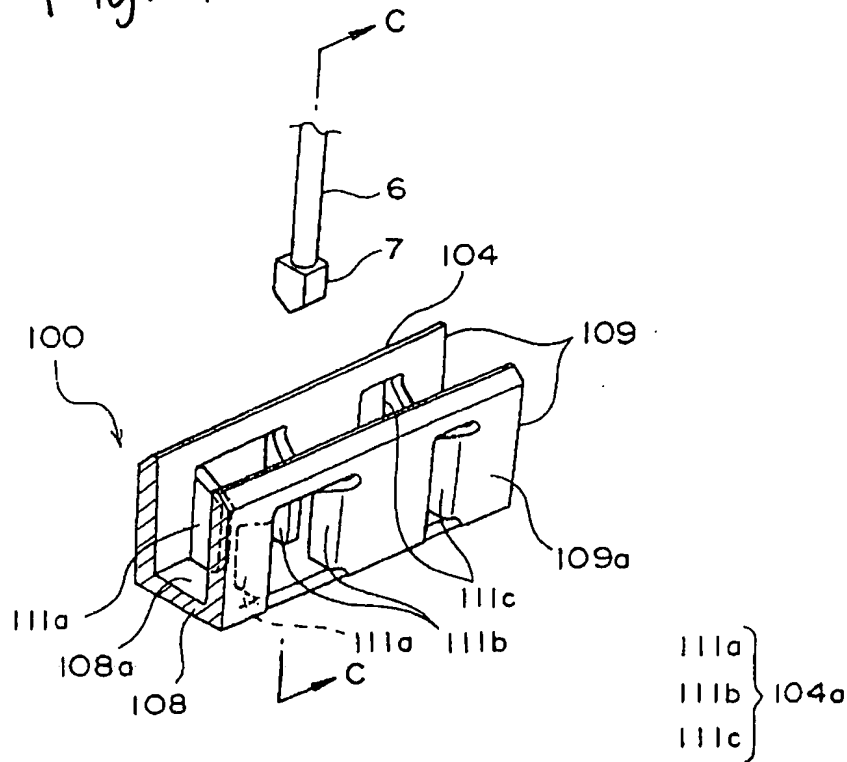
S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load  
S6: is piezoelectric element inserted at predetermined position?  
S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load  
S8: does difference between reference data and characteristic data exceed predetermined value?

S9: good

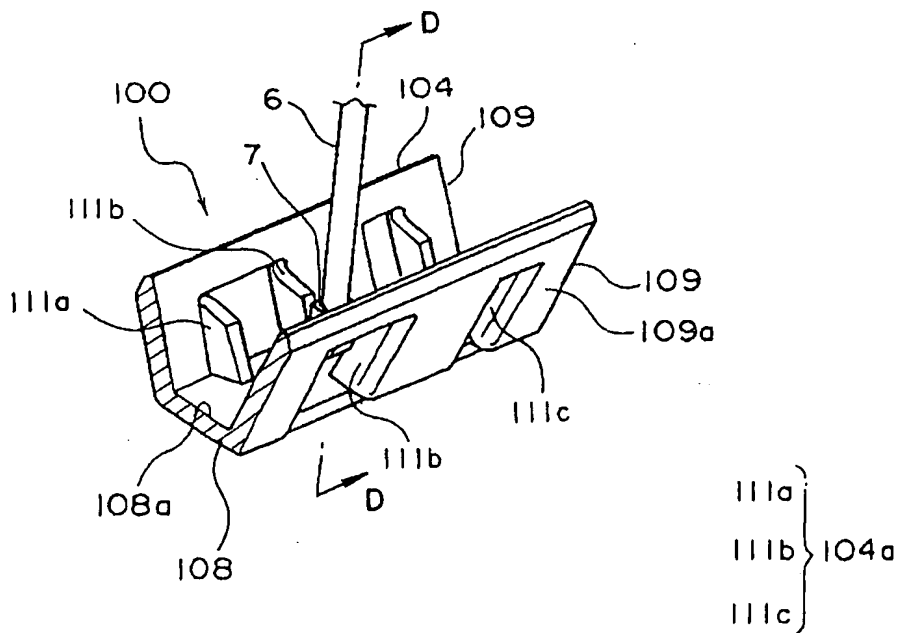
S10: defect

[図14]

Fig. 14



[図15] Fig. 15



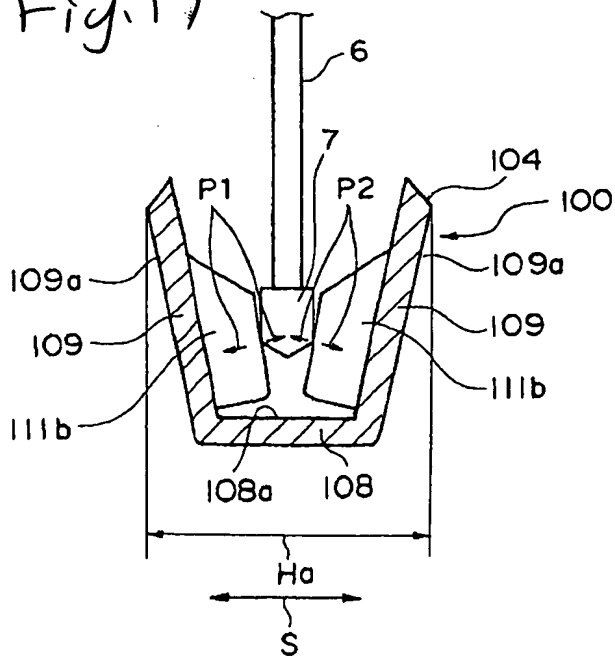


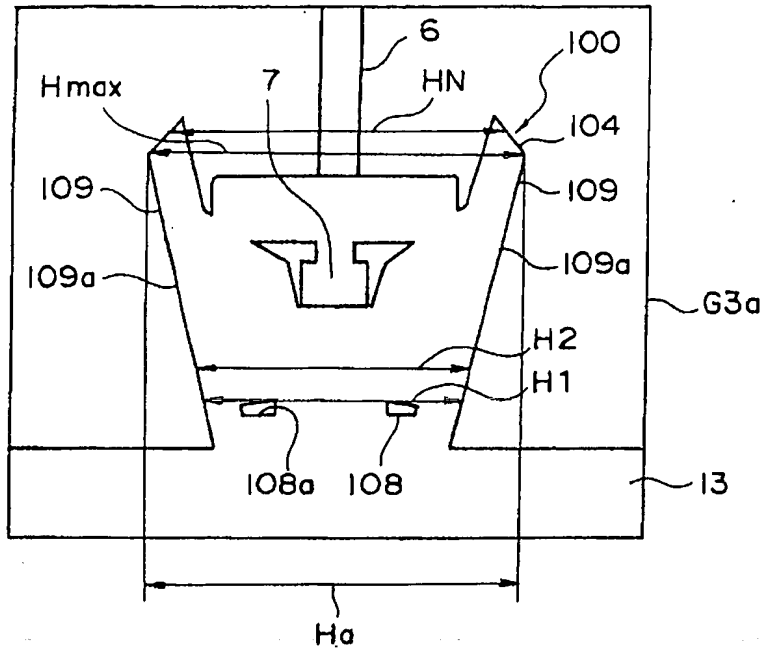
Fig. 18



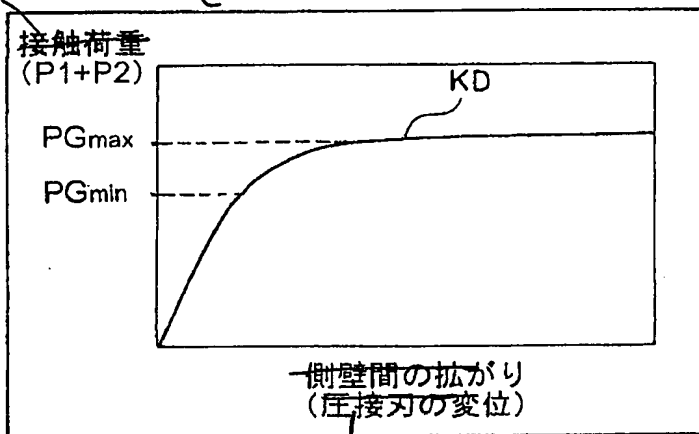
Fig. 19



【図20】 Fig. 20

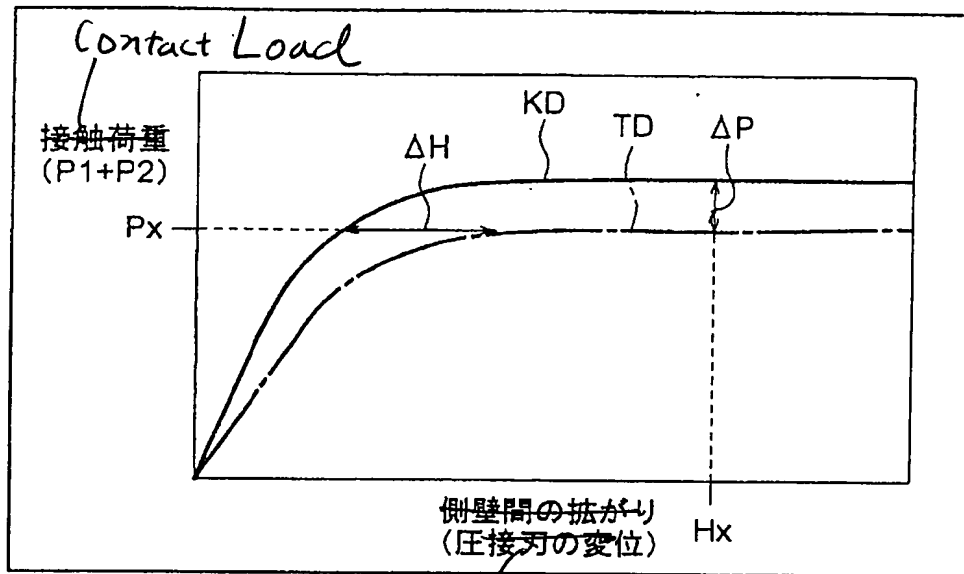


【図21】 Fig. 21  
 Contact Load



Expansion Amount Between Side Walls  
 (Displacement of Press Contact Blades)

[図 2-2] Fig. 22

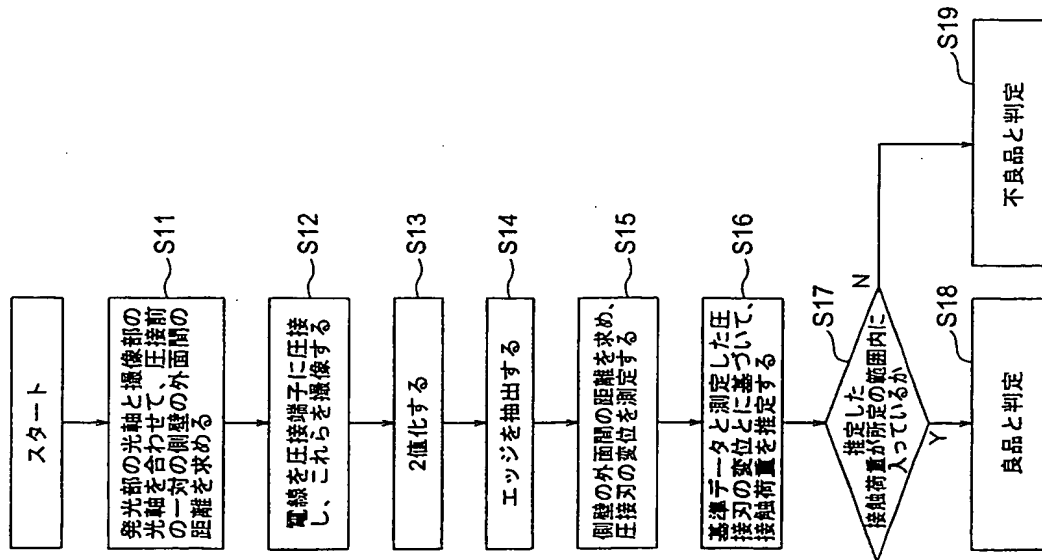


Expansion Amount Between Side Walls  
 (Displacement of Press Contact Blades)



〔図23〕

Fig.23



start

S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S12: bring wire into press contact with press contact terminal and pickup image thereof

S13: binarizing

S14: extract edge

S15: acquire distance between outer faces of side walls and measure displacement of press contact blades

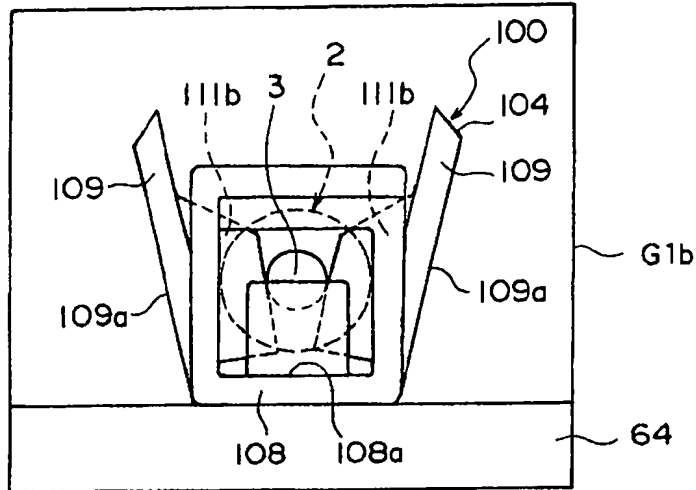
S16: predict contact load based on reference data and measured displacement of press contact blades

S17: does predicted contact load fall within predetermined range?

S18: good

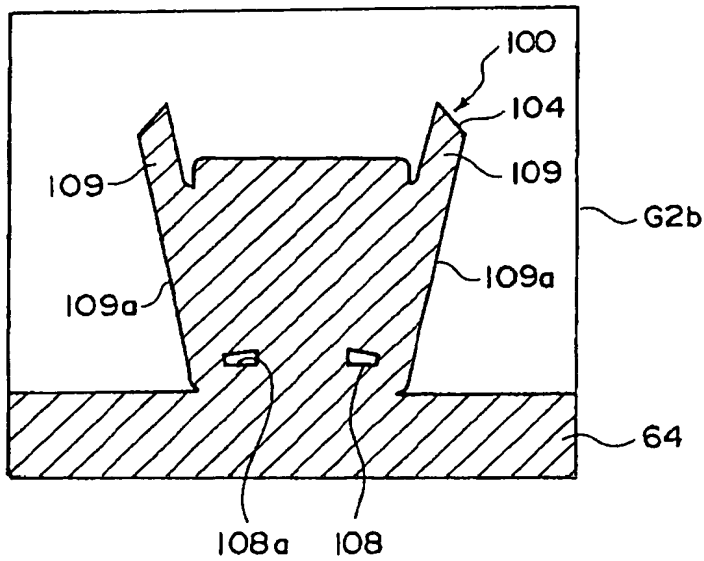
S19: defect

~~図 24~~ Fig.24

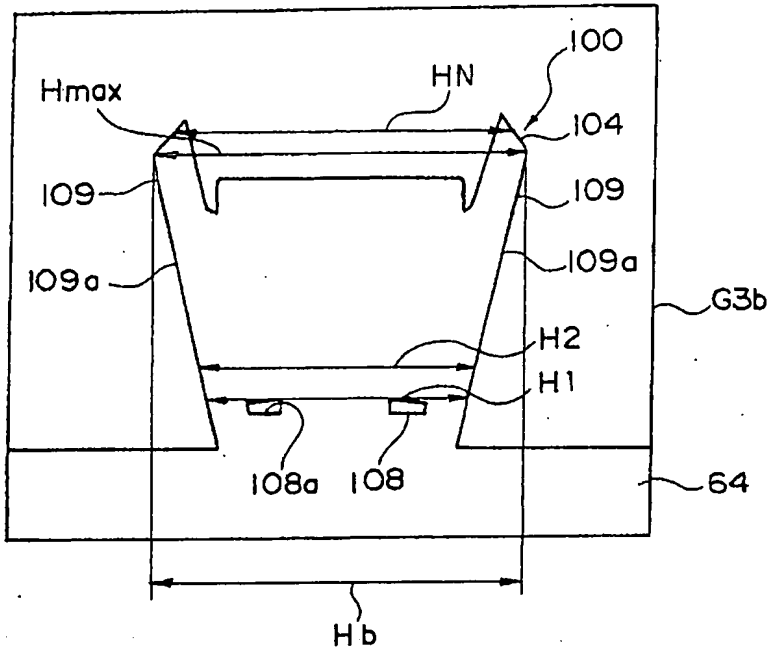


~~図 25~~

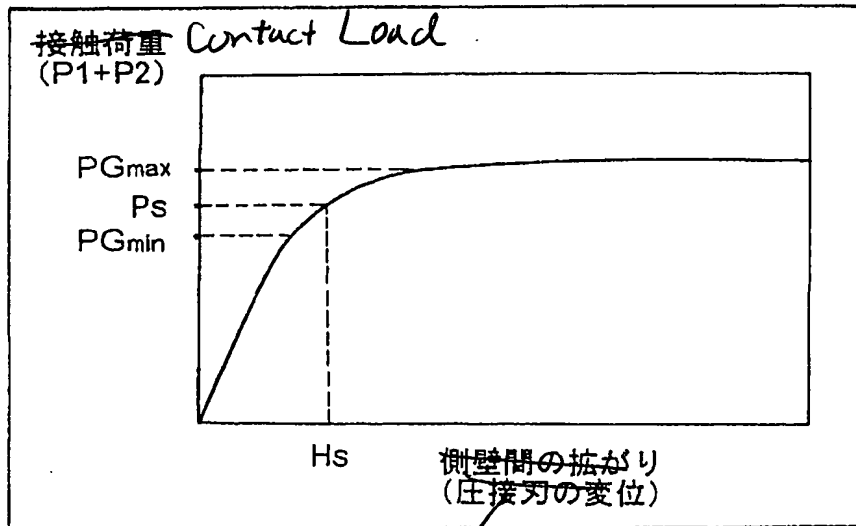
Fig.25



【図26】 Fig.26

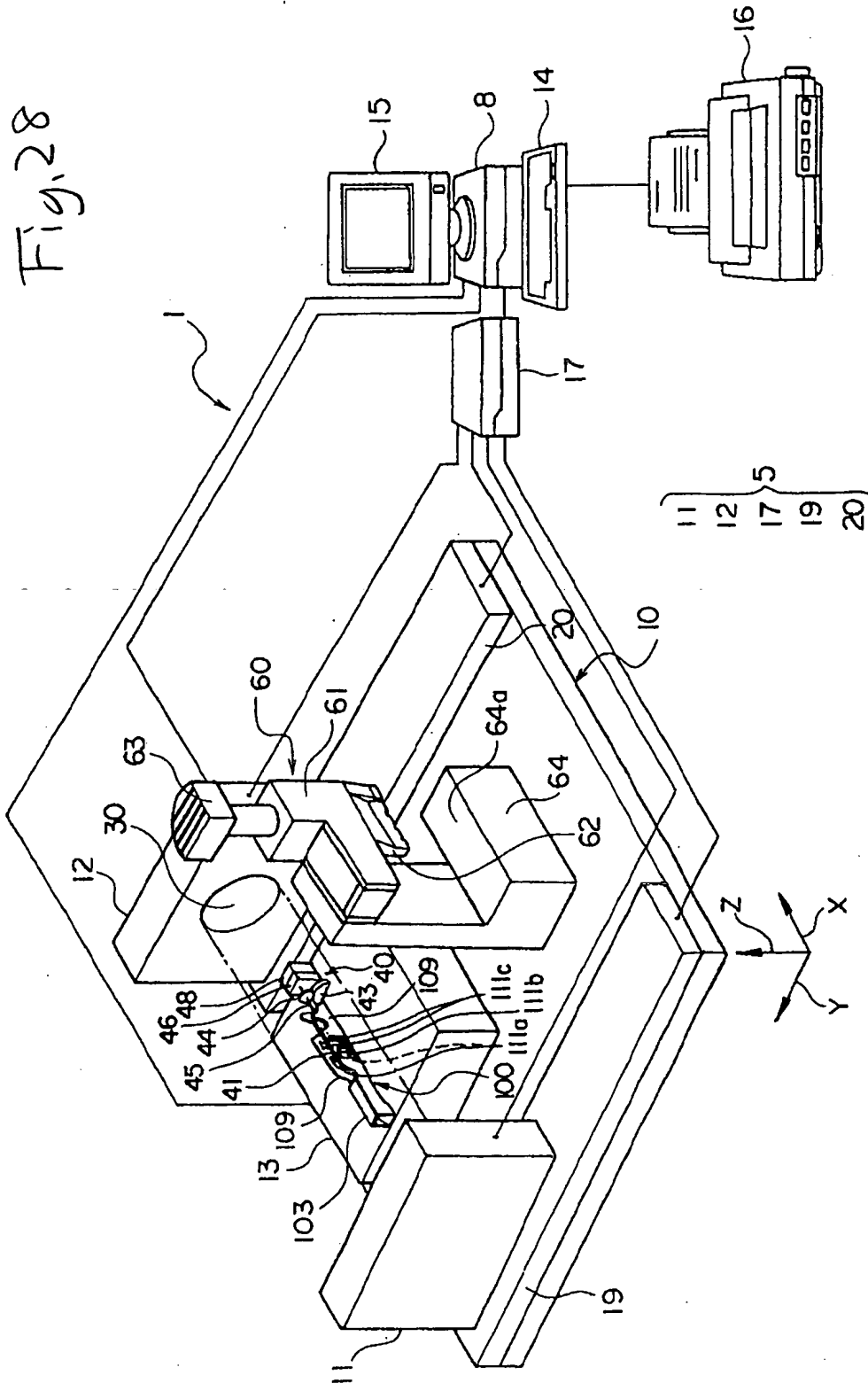


【図27】 Fig.27



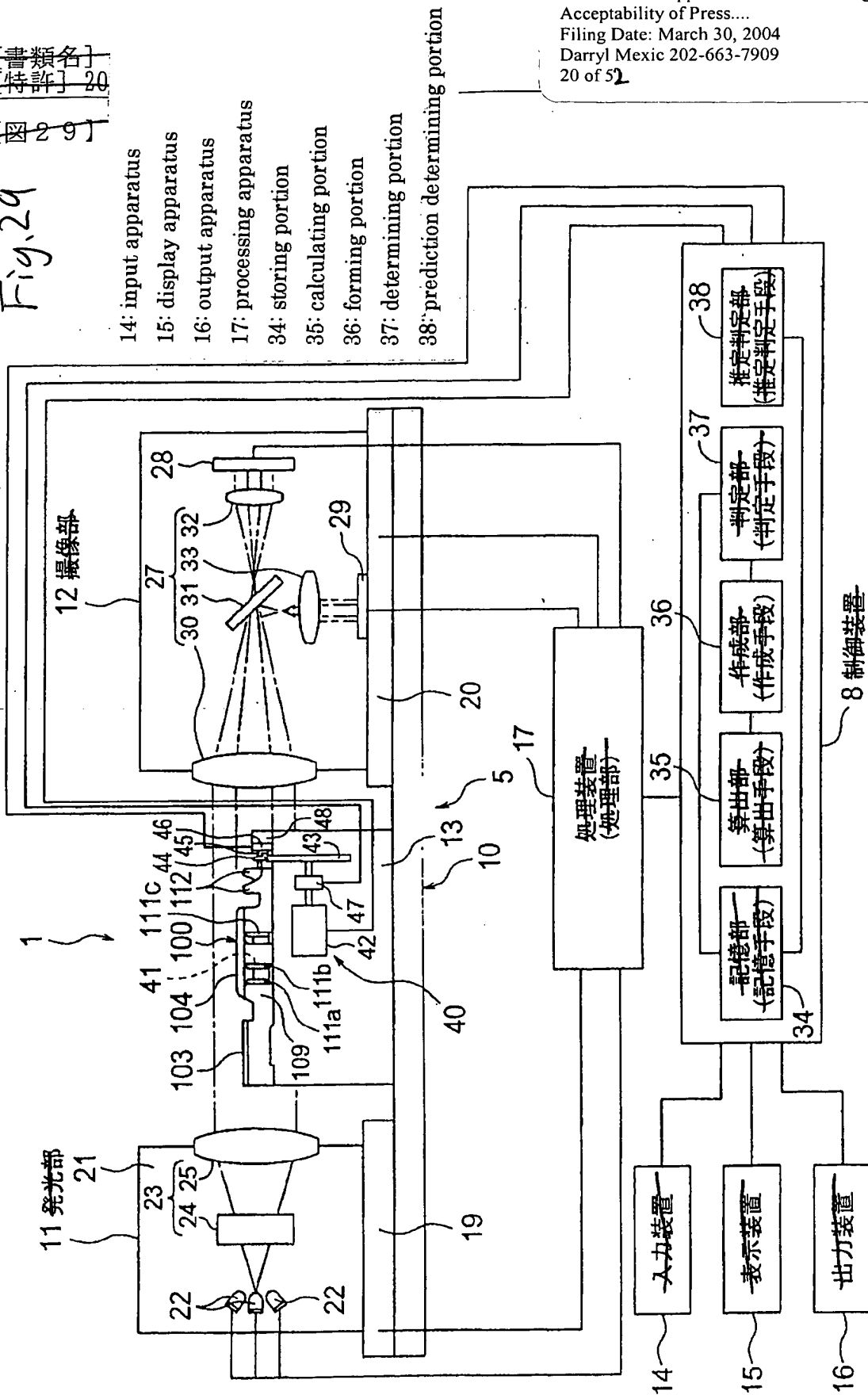
Expansion Amount Between Side Walls  
 (Displacement of Press Contact Blades)

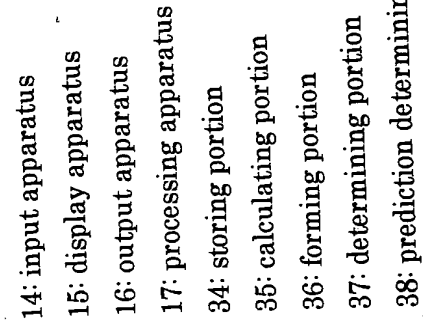
【図 28】



[書類名]  
 [特許] 20  
 [図 29]

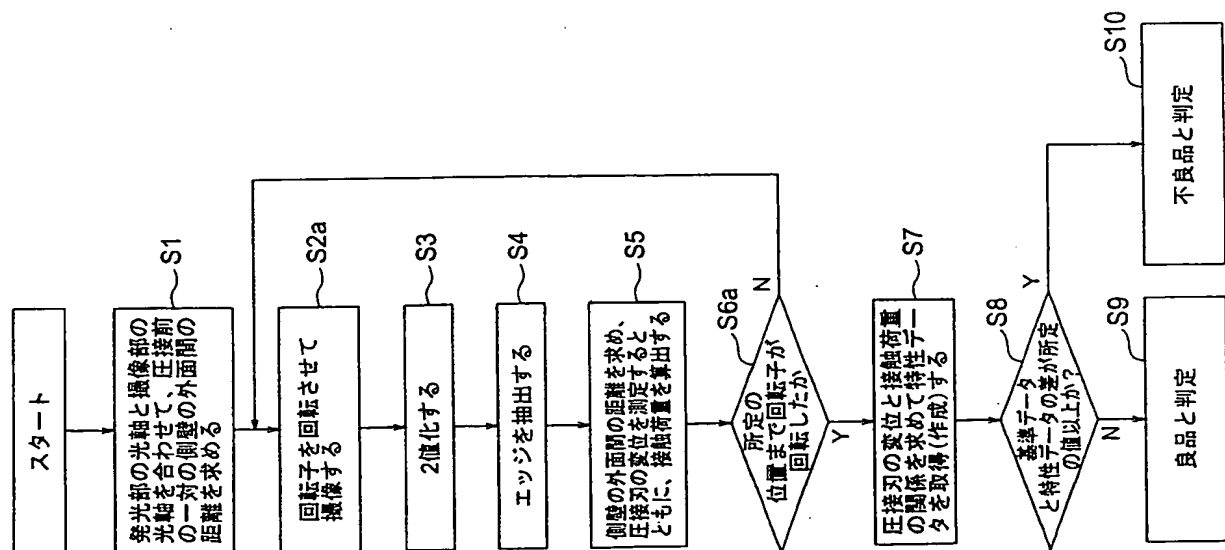
Fig.29



~~【图 30】~~

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【特許】2002-364979(44.12.17)  
【受付日】平14.12.17  
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Fig.31

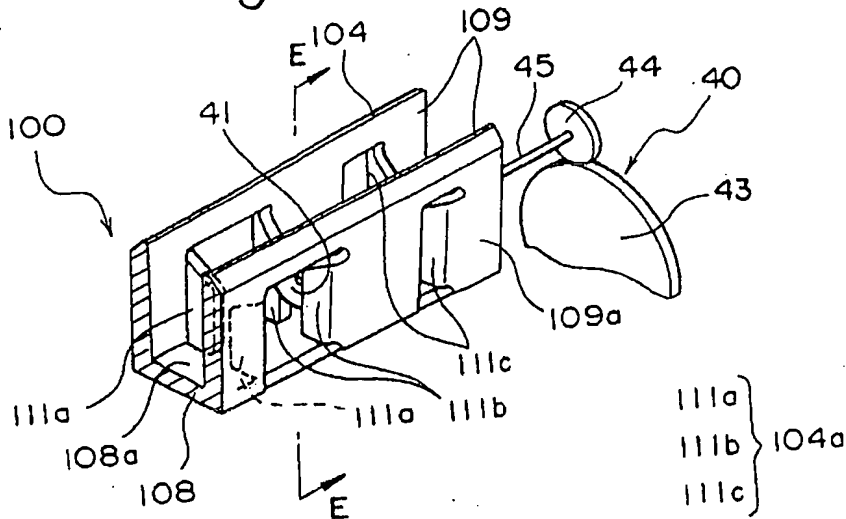


start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting  
S2a: rotate rotor and pickup image thereof  
S3: binarizing  
S4: extract edge  
S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load  
S6a: is rotor rotated by predetermined position?  
S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load  
S8: does difference between reference data and characteristic data exceed predetermined value?  
S9: good  
S10: defect

[図 32]

Fig. 32



[図 33]

Fig. 33

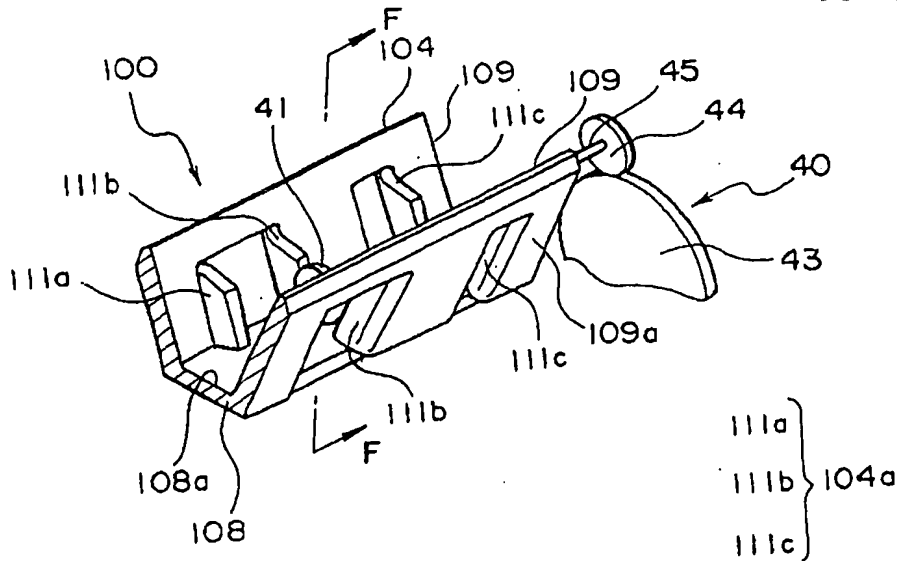
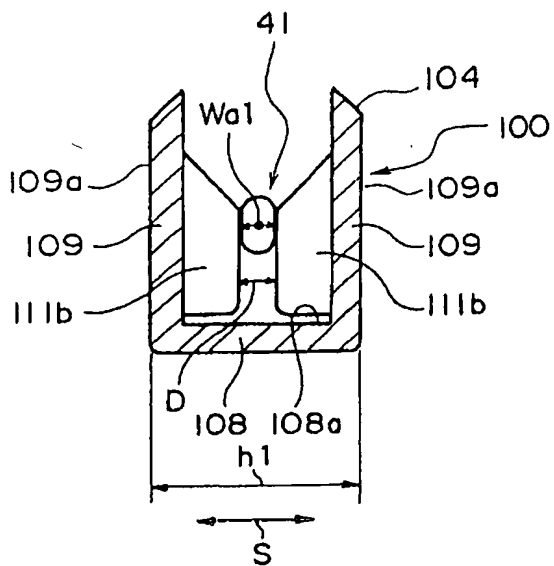




Fig. 34



~~【图 3-5】~~

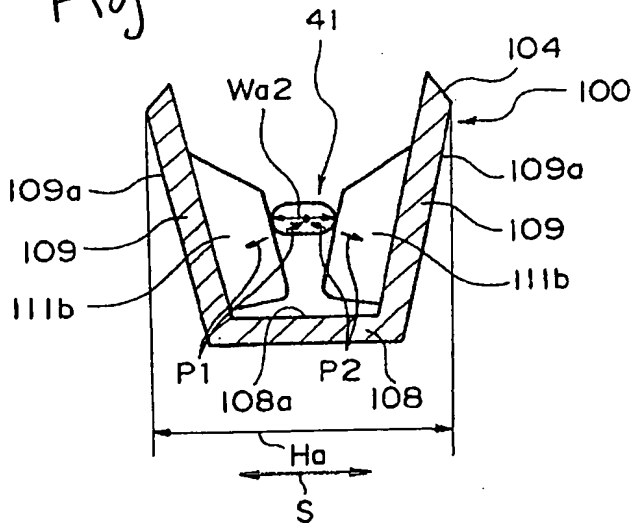
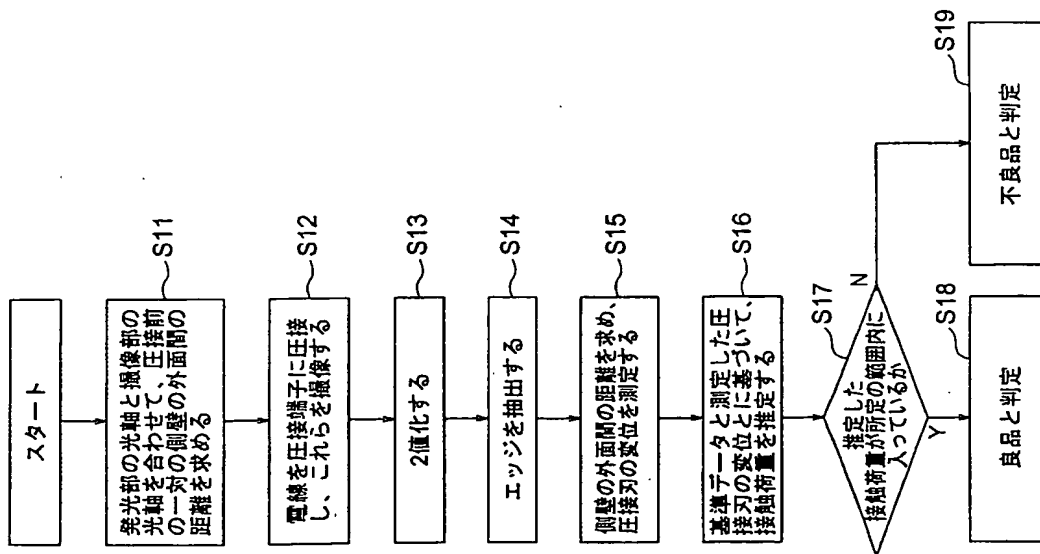


図36

Fig.36



start

S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S12: bring wire into press contact with press contact terminal and pickup image thereof

S13: binarizing

S14: extract edge

S15: acquire distance between outer faces of side walls and measure displacement of press contact blades

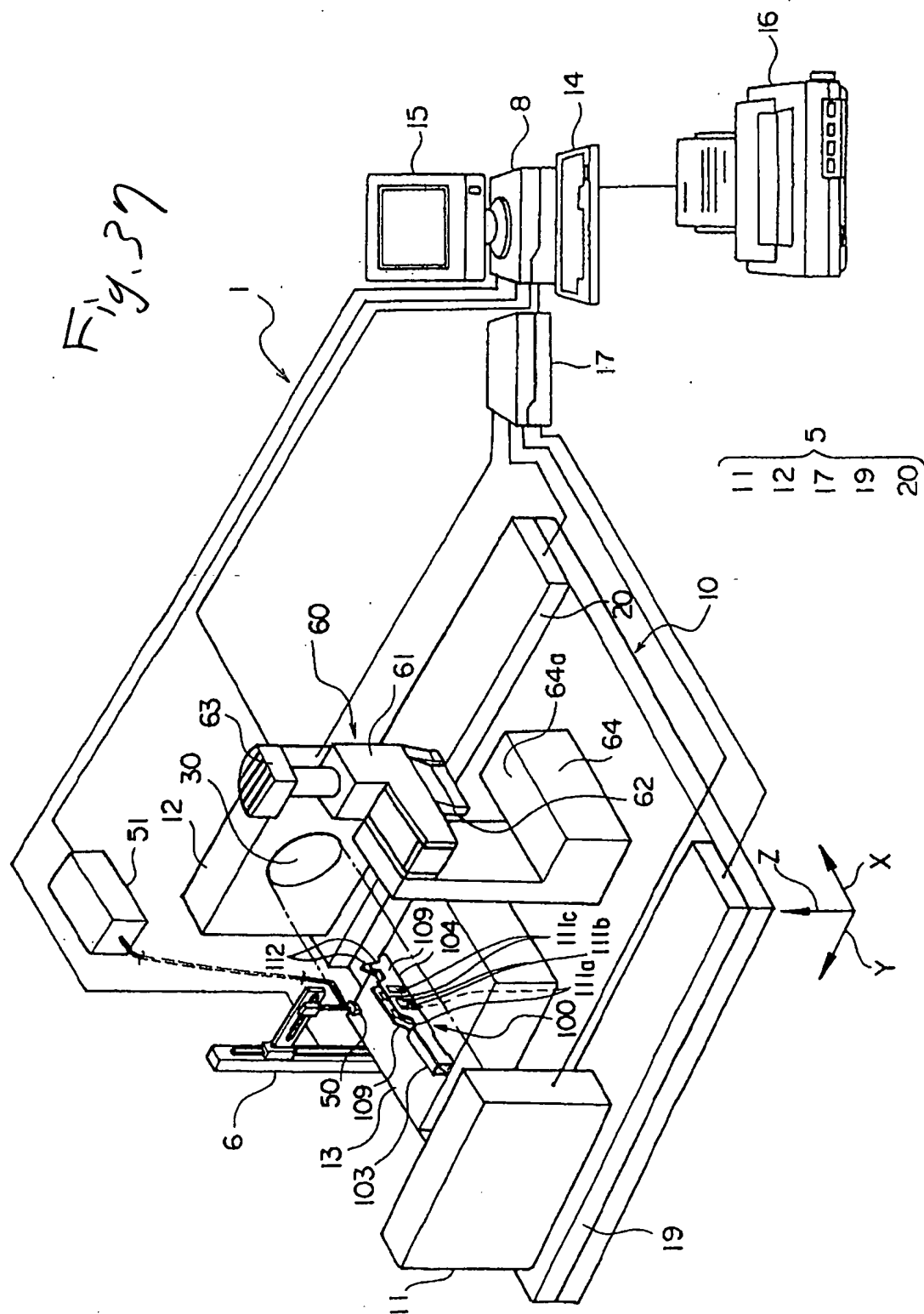
S16: predict contact load based on reference data and measured displacement of press contact blades

S17: does predicted contact load fall within predetermined range?

S18: good

S19: defect

~~【图 3-7】~~

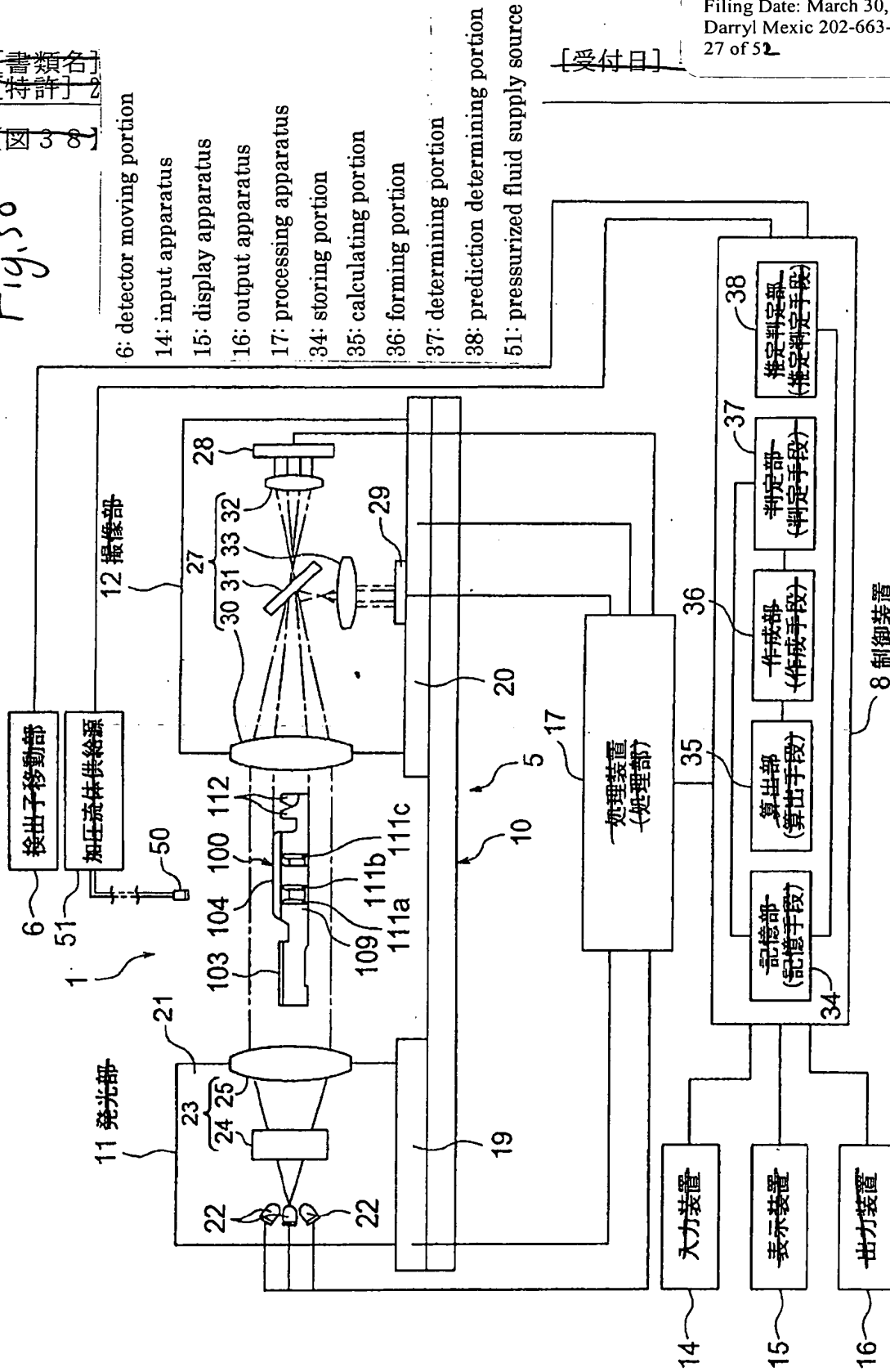


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Fig. 38

[書類名]  
[特許] 2  
[図 38]



~~【图 3-9】~~

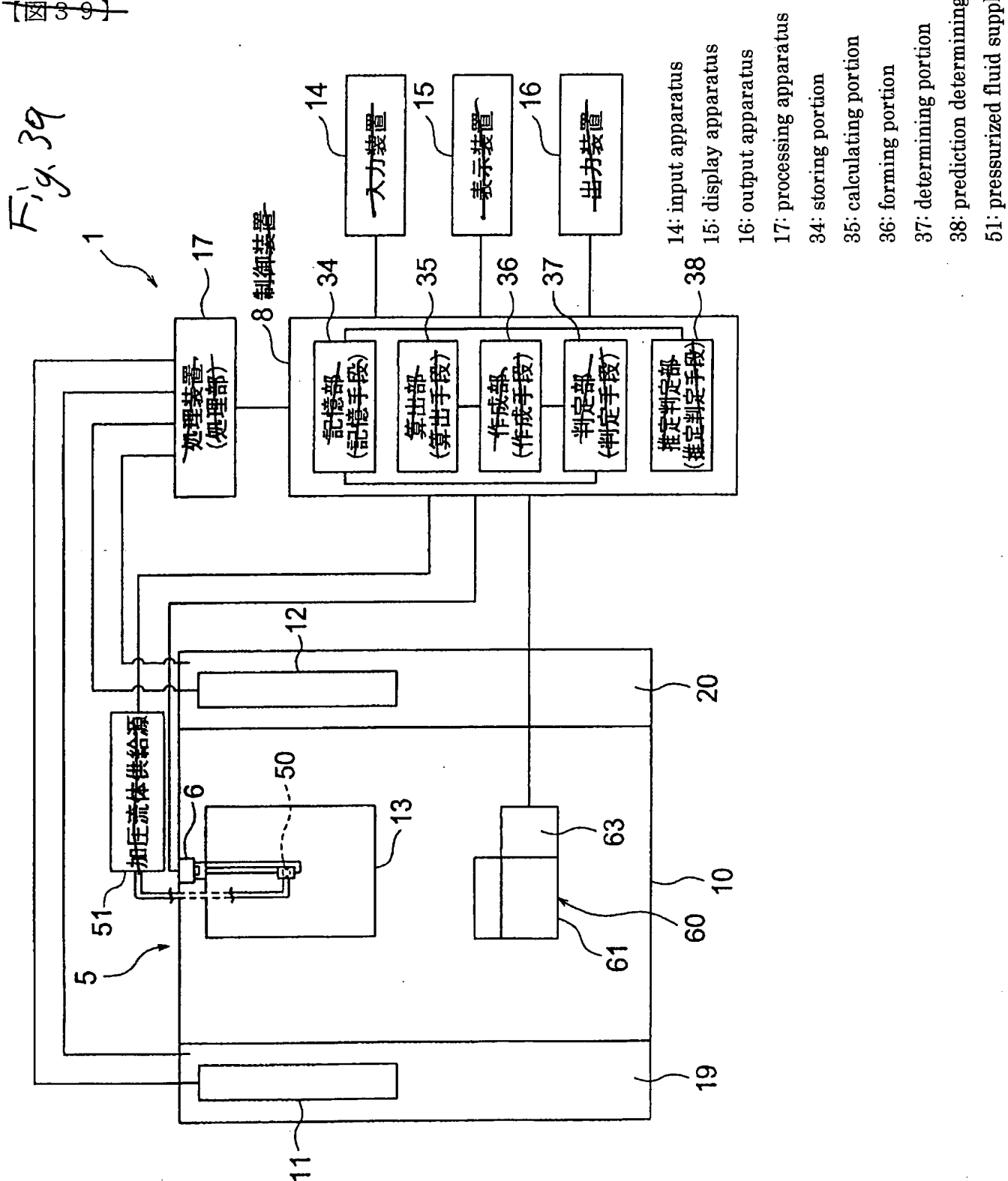
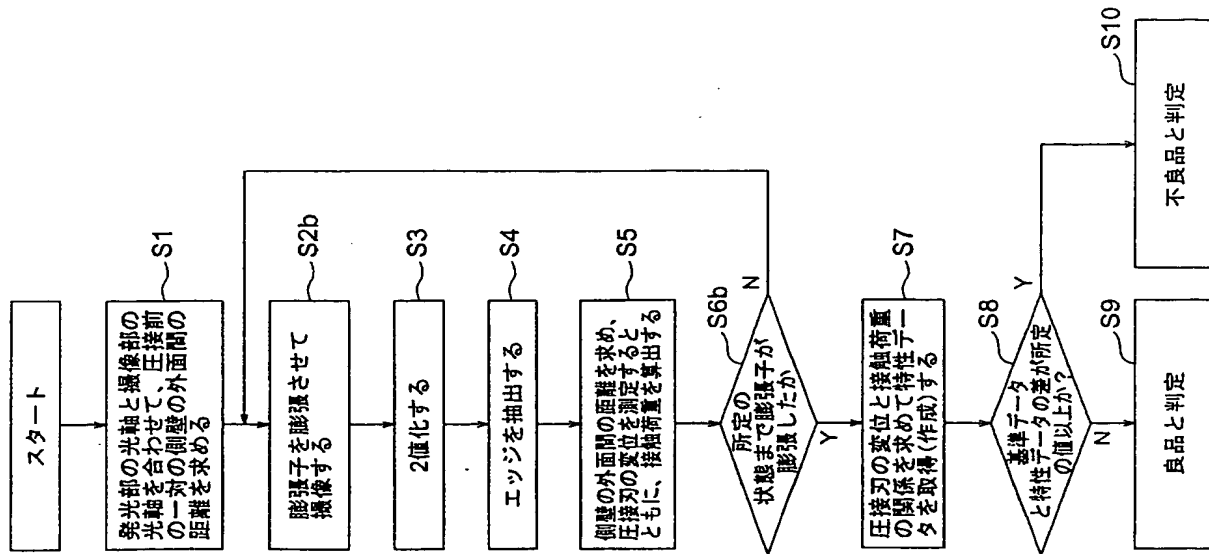


図40

Fig.40



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S2b: expand expander and pickup image thereof

S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load

S6b: is expander expanded in predetermined state?

S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load

S8: does difference between reference data and characteristic data exceed predetermined value?

S9: good

S10: defect

[書類名] 図面

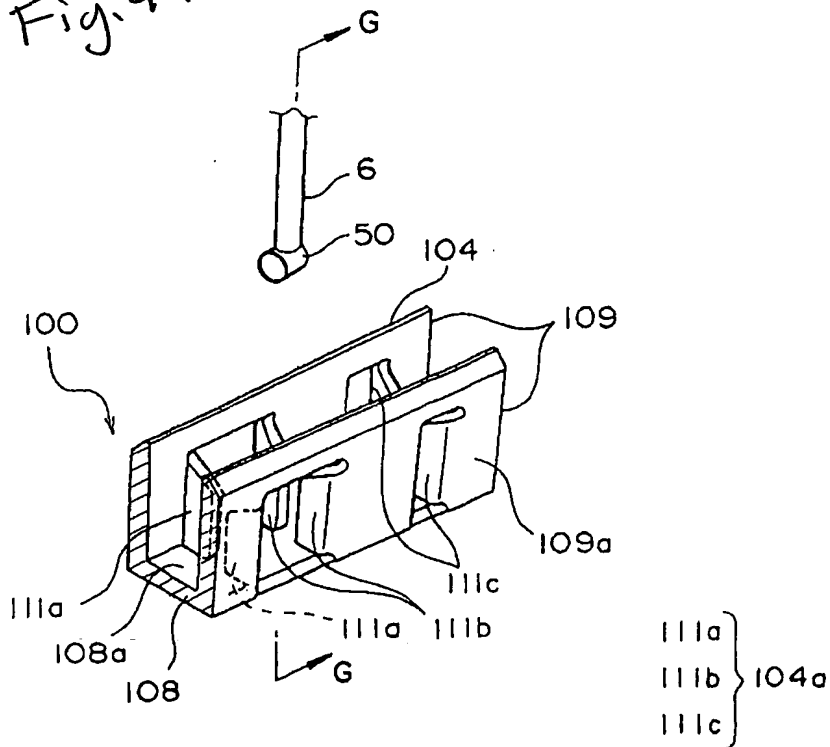
[特許] 2002-364979 (14.12.17)

4.12.17

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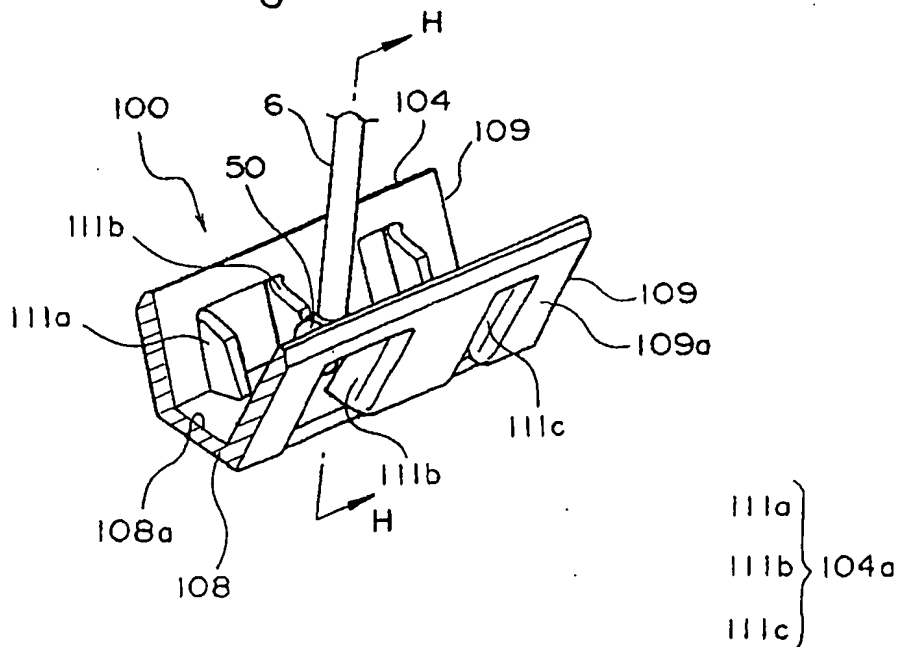
[図41]

Fig. 41



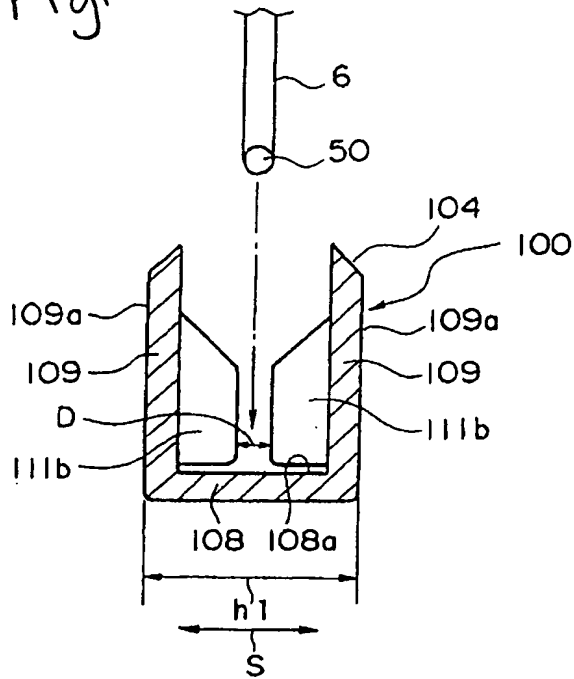
[図42]

Fig. 42

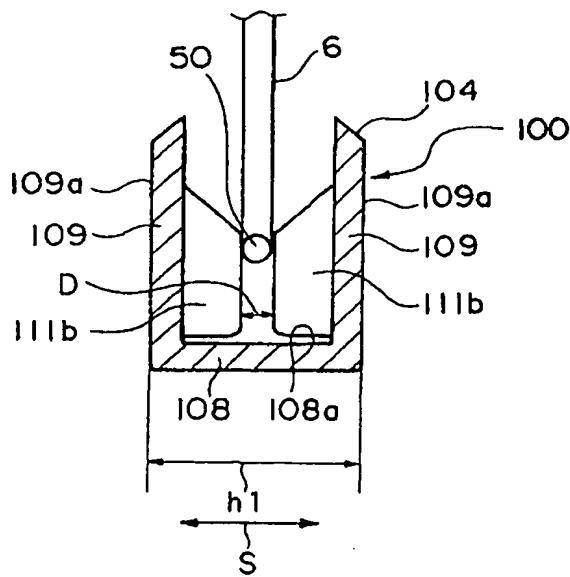


[図43]

Fig. 43



[図44] Fig. 44





〔図45〕

Fig. 45

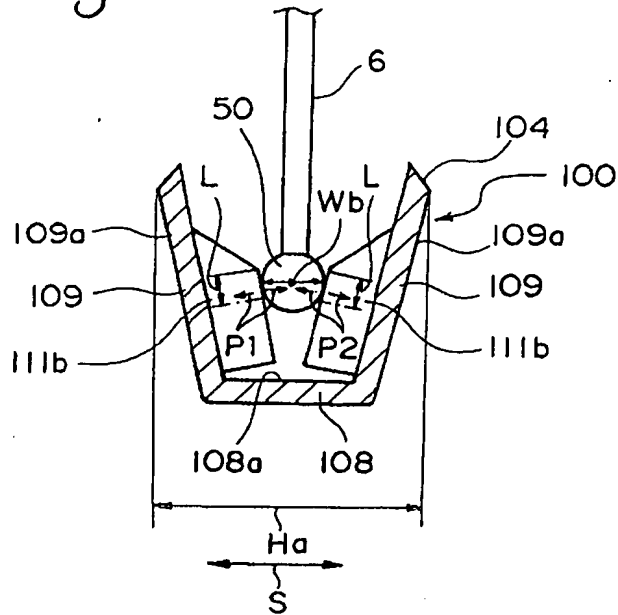
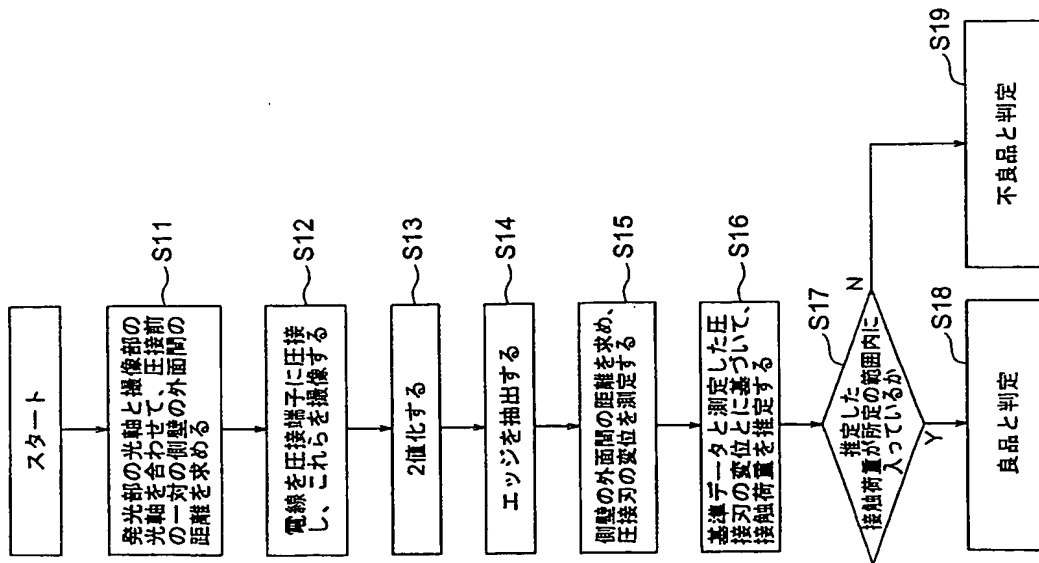


図46

Fig.46



start  
S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting  
S12: bring wire into press contact with press contact terminal and pickup image thereof  
S13: binarizing  
S14: extract edge  
S15: acquire distance between outer faces of side walls and measure displacement of press contact blades  
S16: predict contact load based on reference data and measured displacement of press contact blades  
S17: does predicted contact load fall within predetermined range?  
S18: good  
S19: defect

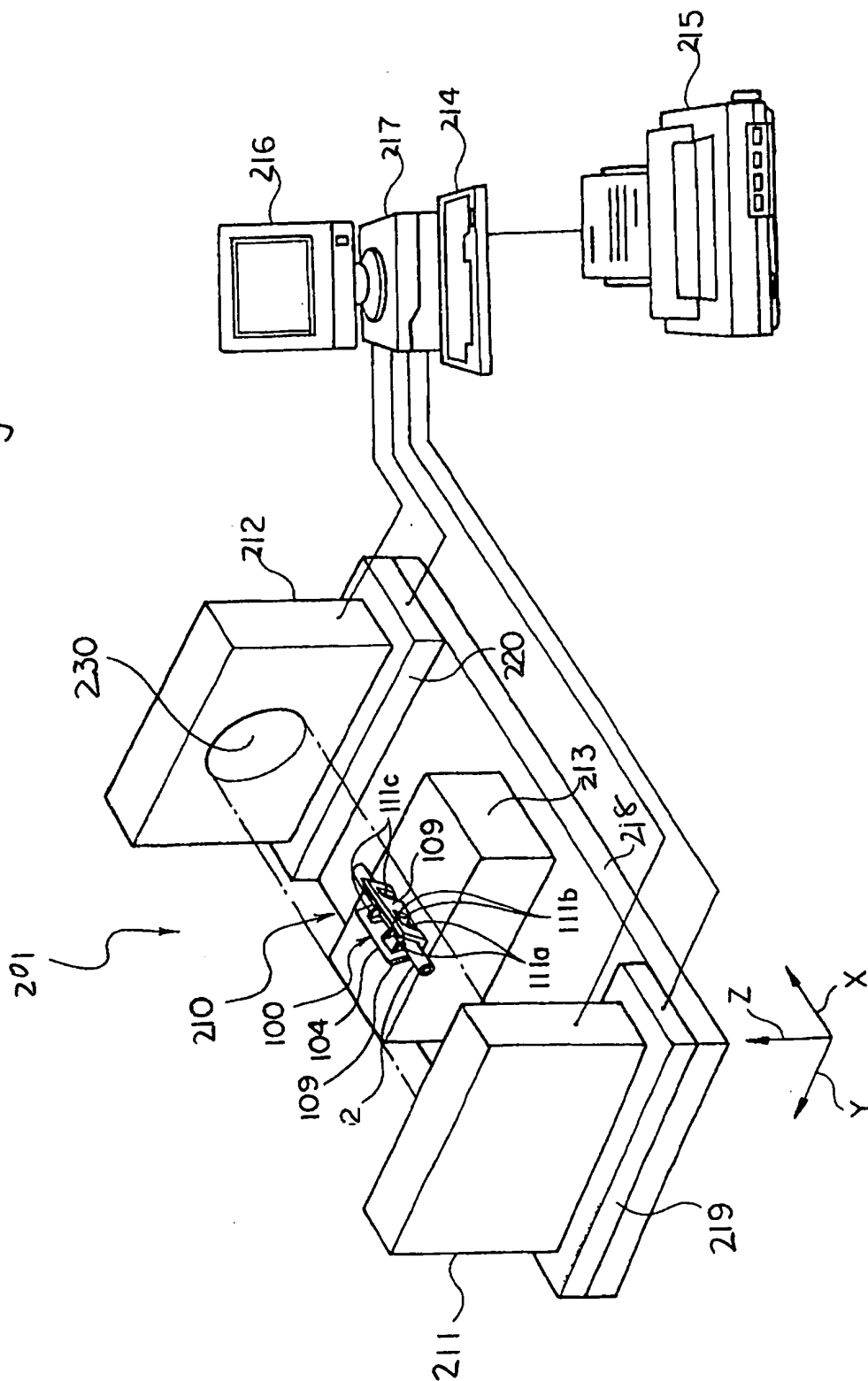
【書類名】 図面

【特許】 2002-352875 (14 12 04)

【書類名】 図面

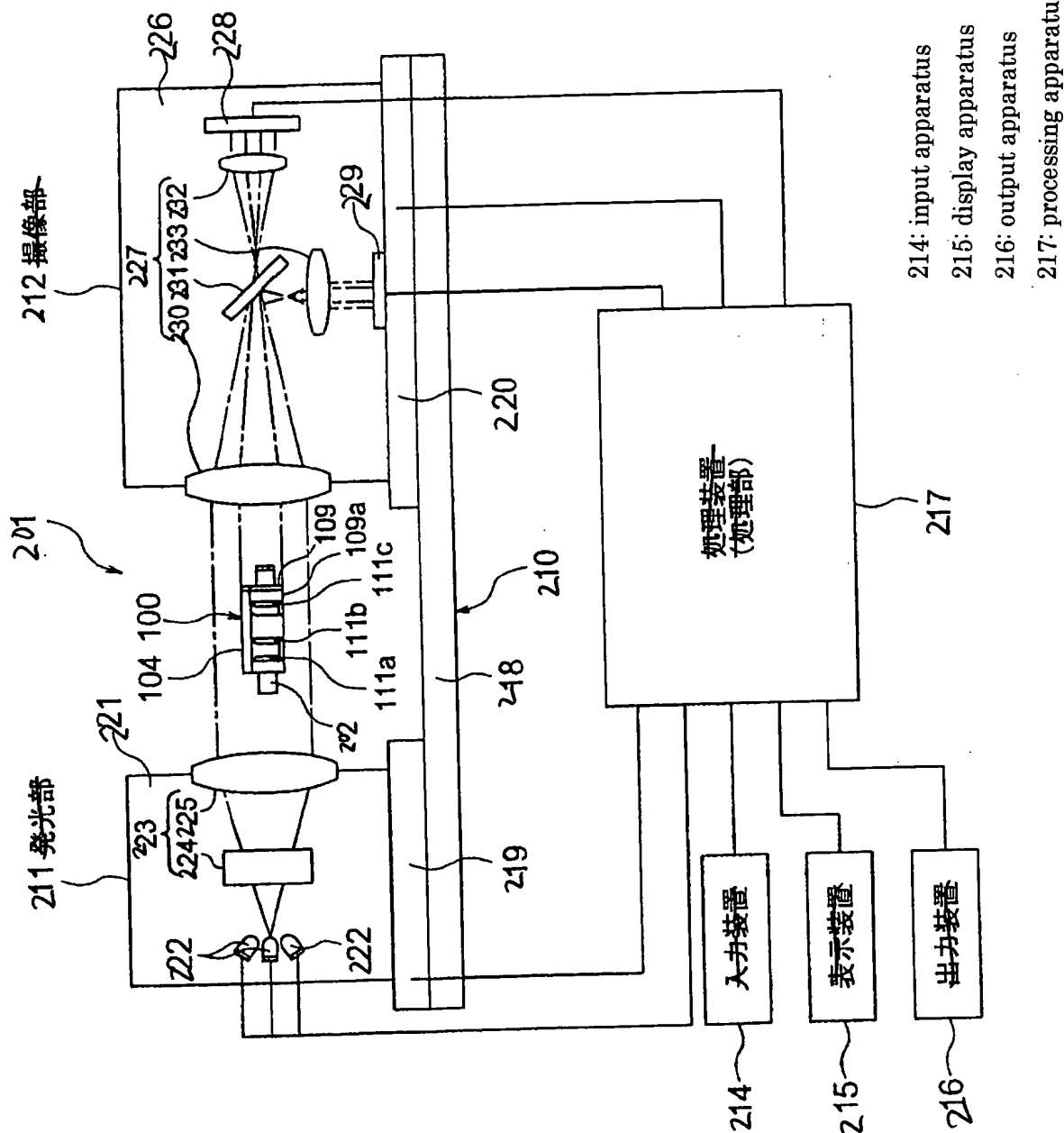
【図1】

Fig. 47



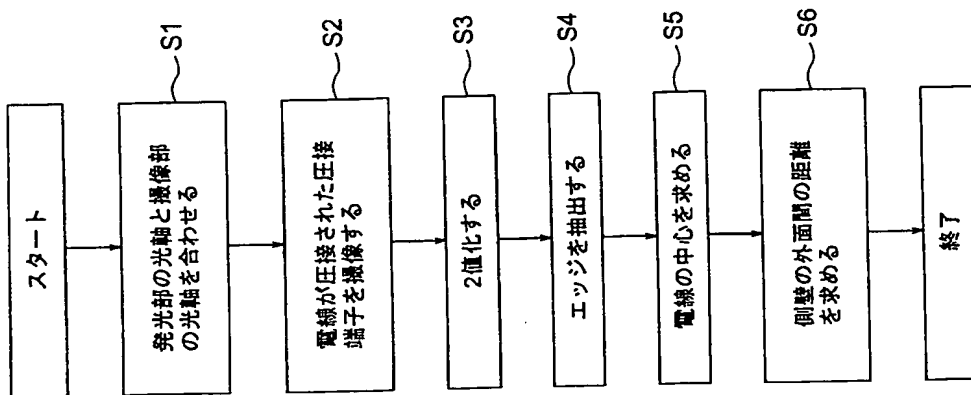
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~~[特許] 2002-352875 (14. 12. 04)~~

【~~図2~~】



8  
4  
5  
11

Fig. 44



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion  
S2: pickup image of press contact terminal with which wire is brought into press contact  
S3: binarizing  
S4: extract edge  
S5: acquire center of wire  
S6: acquire distance between outer faces of side walls

end

[書類名] 図面

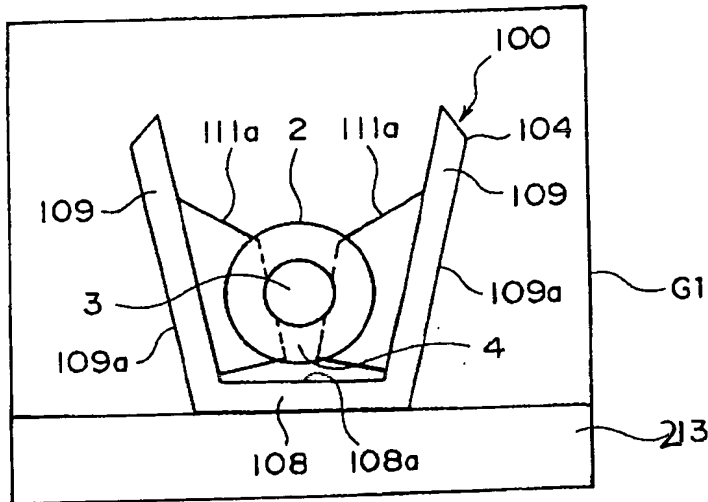
[特許] 2002-352875 (14.12.04)

[文付日] 14.12.04

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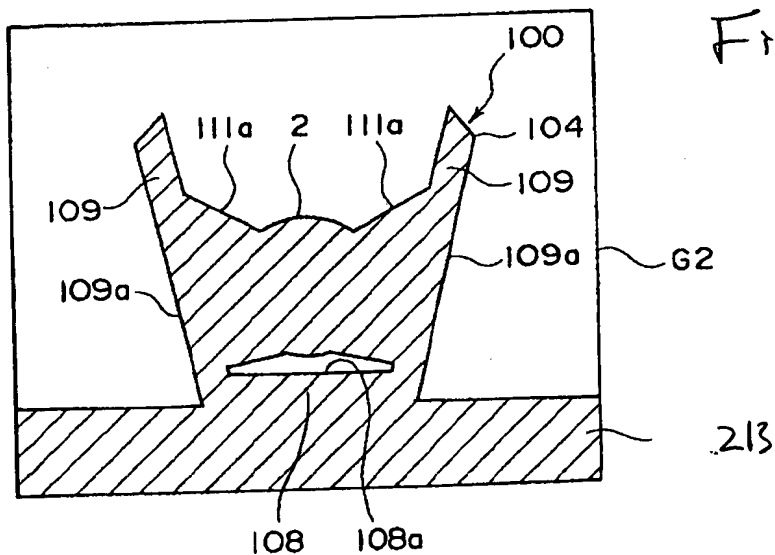
[図1-1]

Fig. 50



[図1-2]

Fig. 51



~~【書類名】 図面~~

~~【特許】 2002 352875 (14. 12. 04)~~

~~【文種】 12. 04~~

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~~【図 1 3】~~

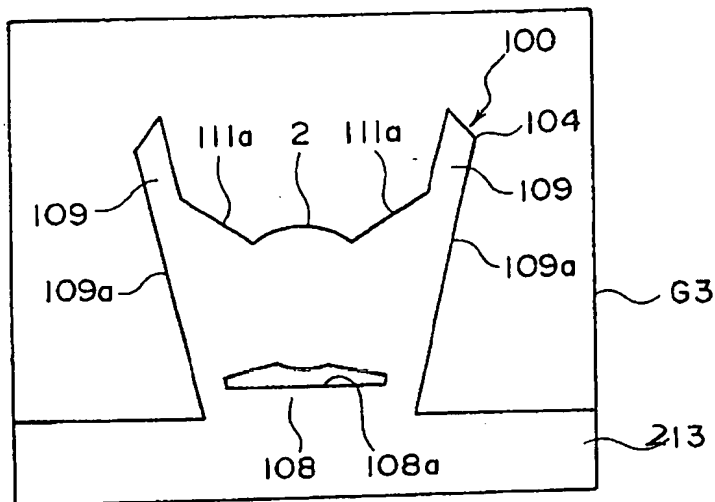


Fig. 52

~~【図 1 4】~~

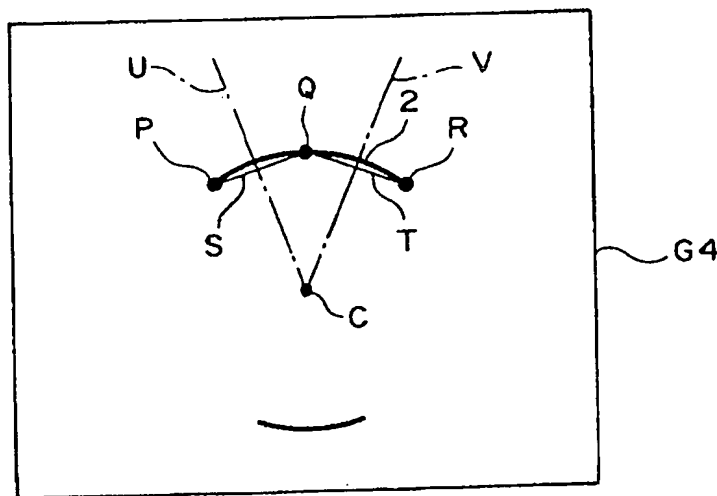


Fig. 53

[書類名] 図面  
 [特許] 2002-352875 (14.12.04)

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[図15]

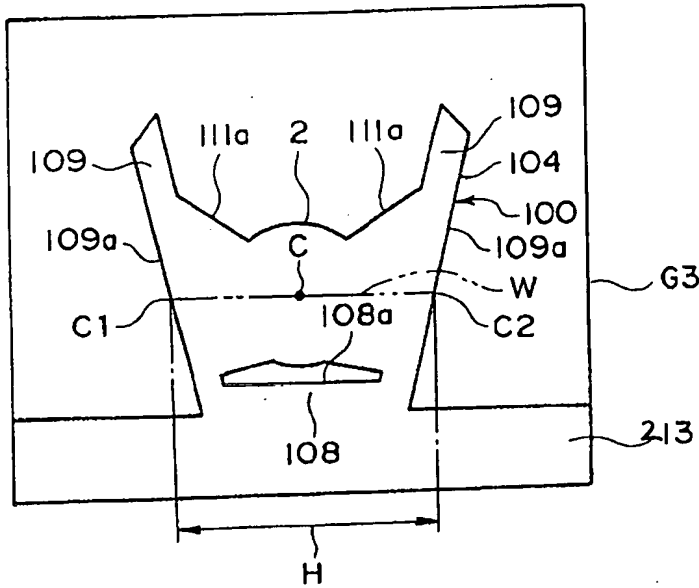


Fig. 54

[図16]

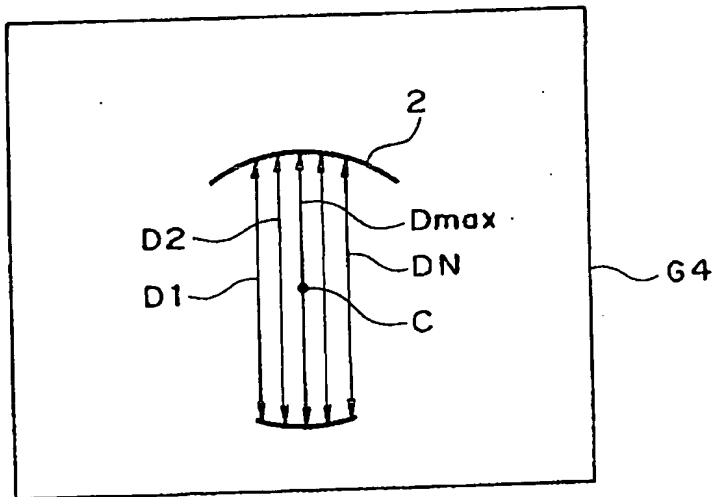
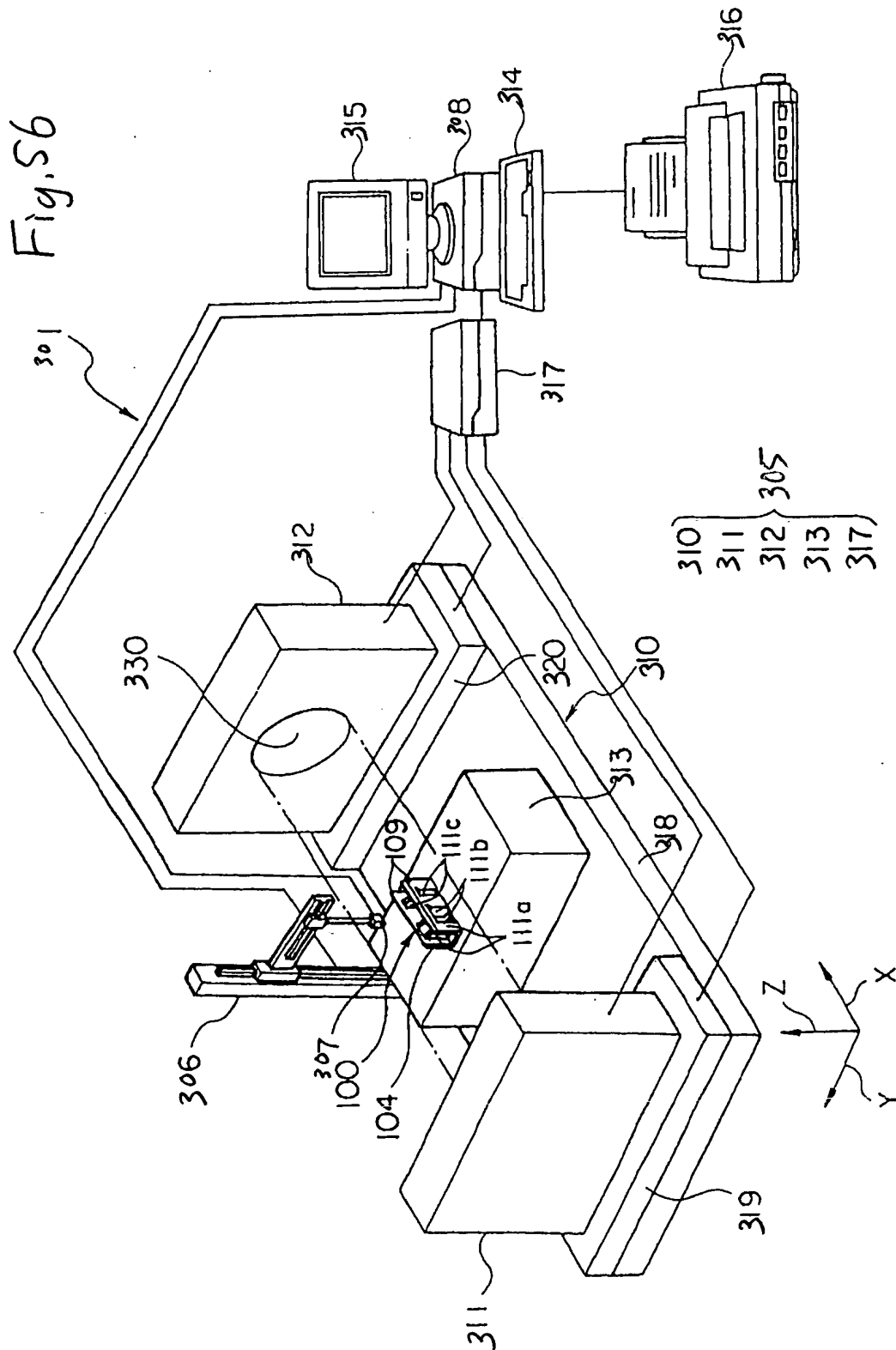


Fig. 55



~~【書類名】~~ ~~図面~~

~~【图1】~~



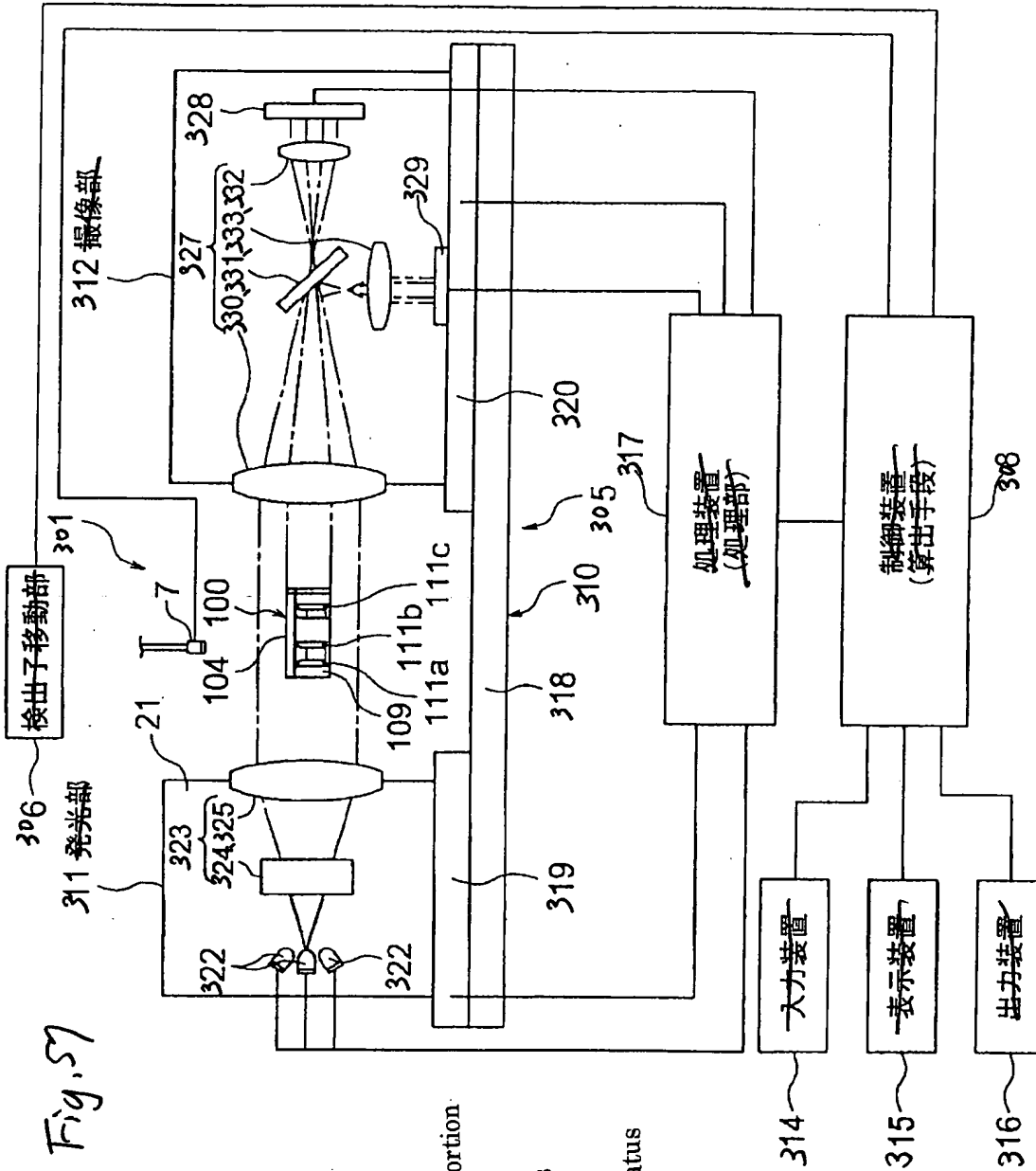
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[特許] 2002-352873 (14. 12. 04)

[交付日] 14. 12. 04

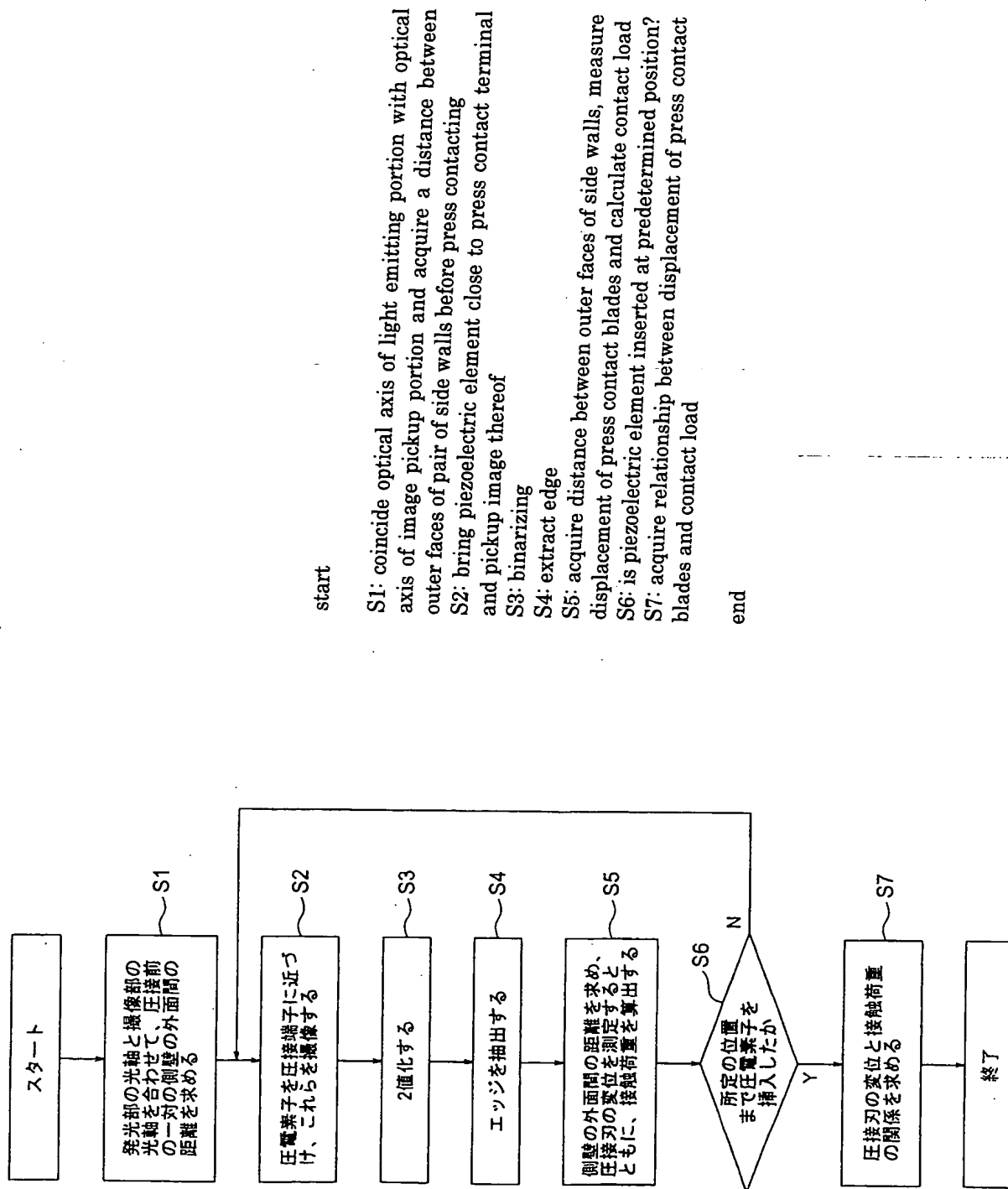
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[図 2]



- 308: control apparatus
- 306: detector moving portion
- 314: input apparatus
- 315: display apparatus
- 316: output apparatus
- 317: processing apparatus

図10 Fig. 58



[書類名] 図面

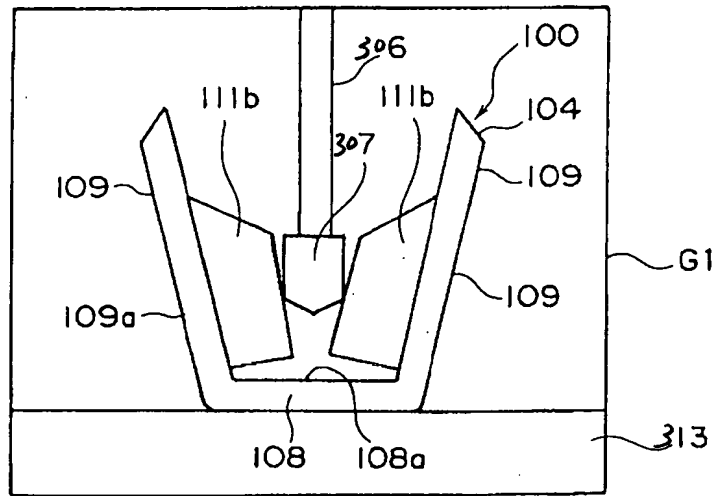
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[発行日] 14.12.04

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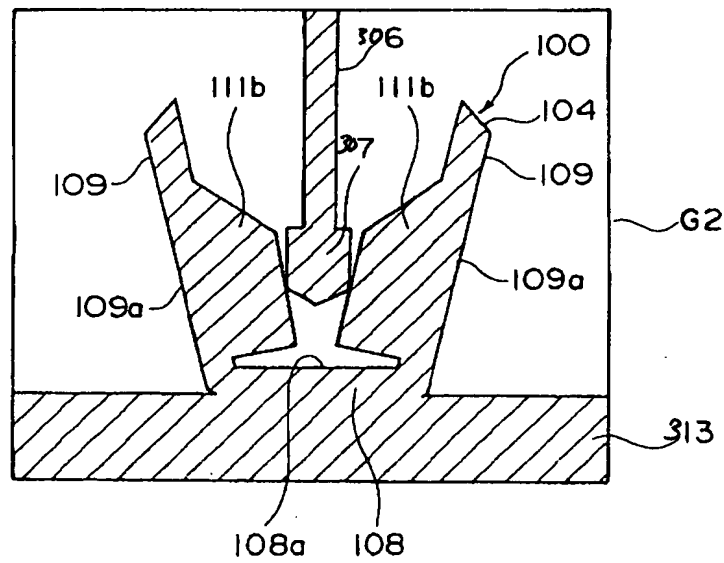
[図15]

Fig. 59



~~[図16]~~

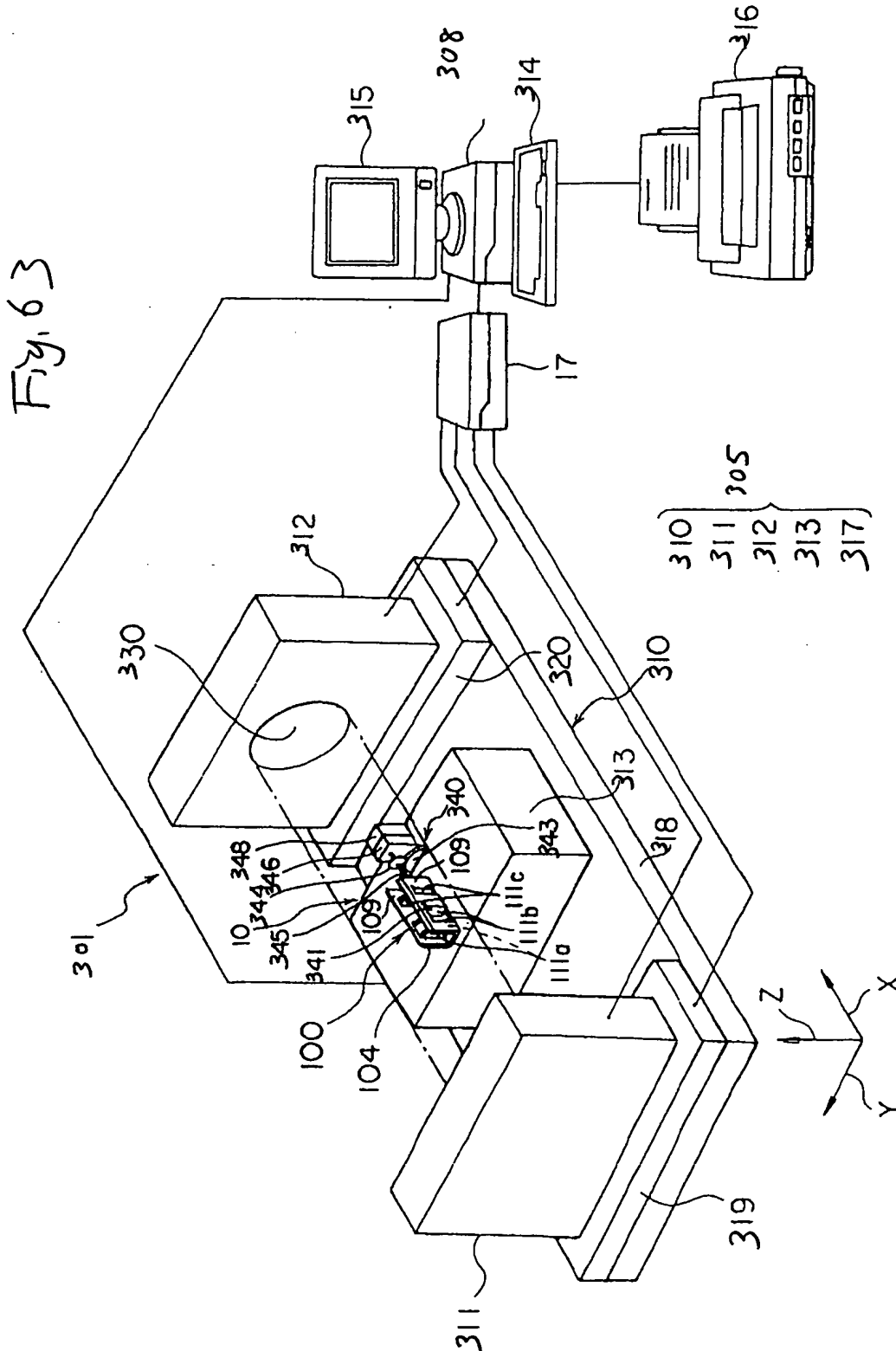
Fig. 60



~~【图18】~~

Expansion Amount Between Side Walls  
(Displacement of Press contact Blades)

【図19】



[図 20]

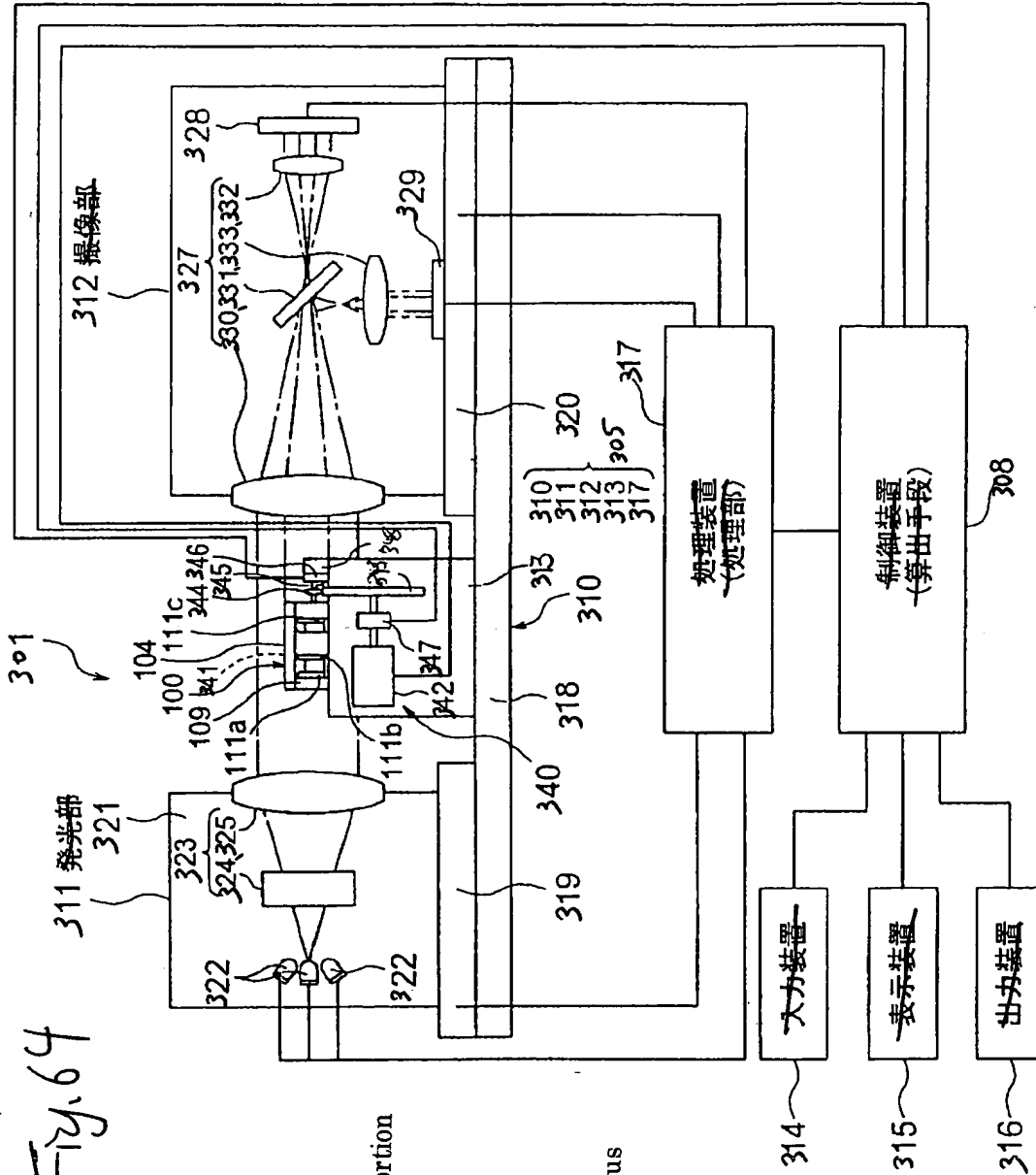
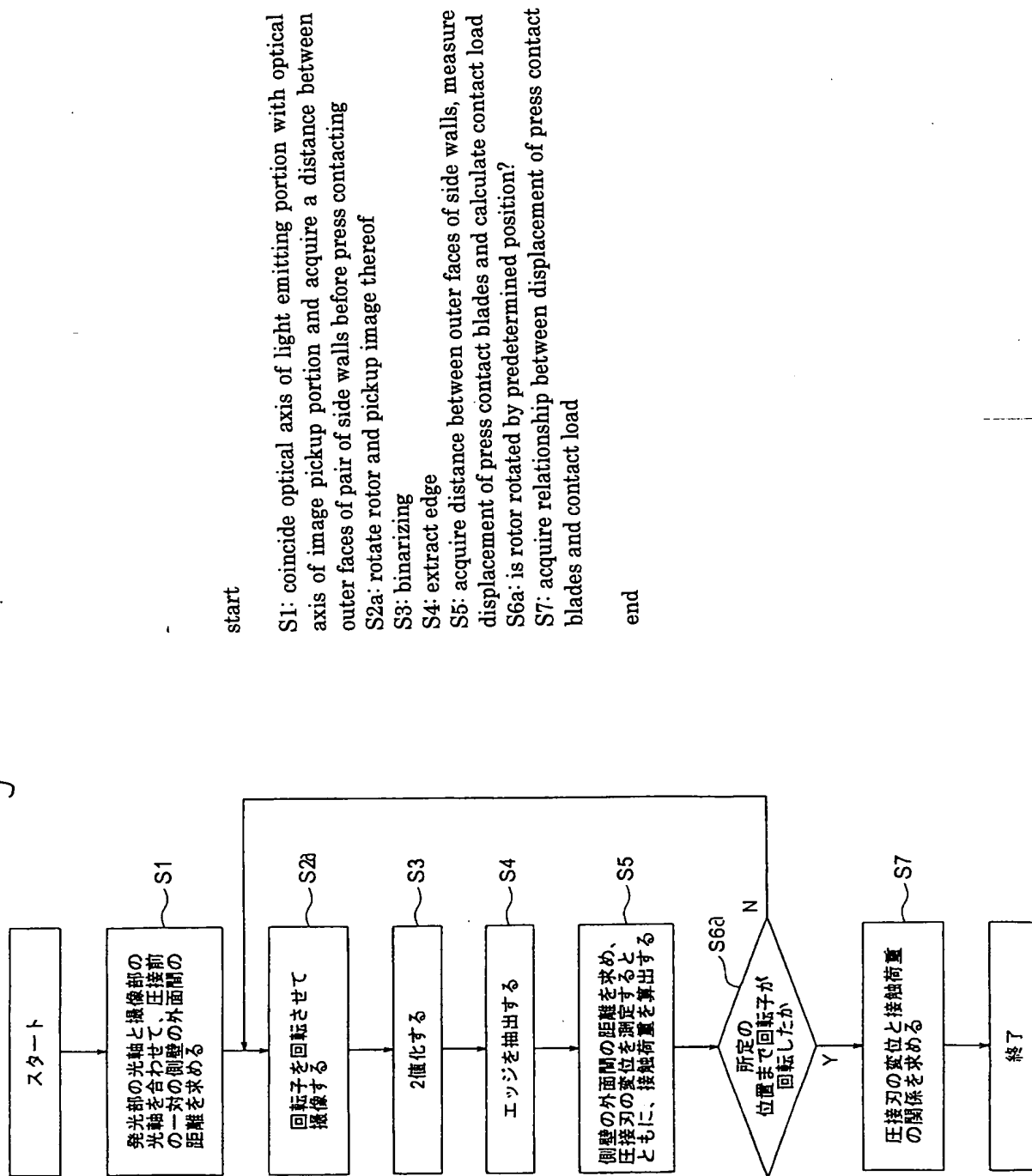


Fig. 6S





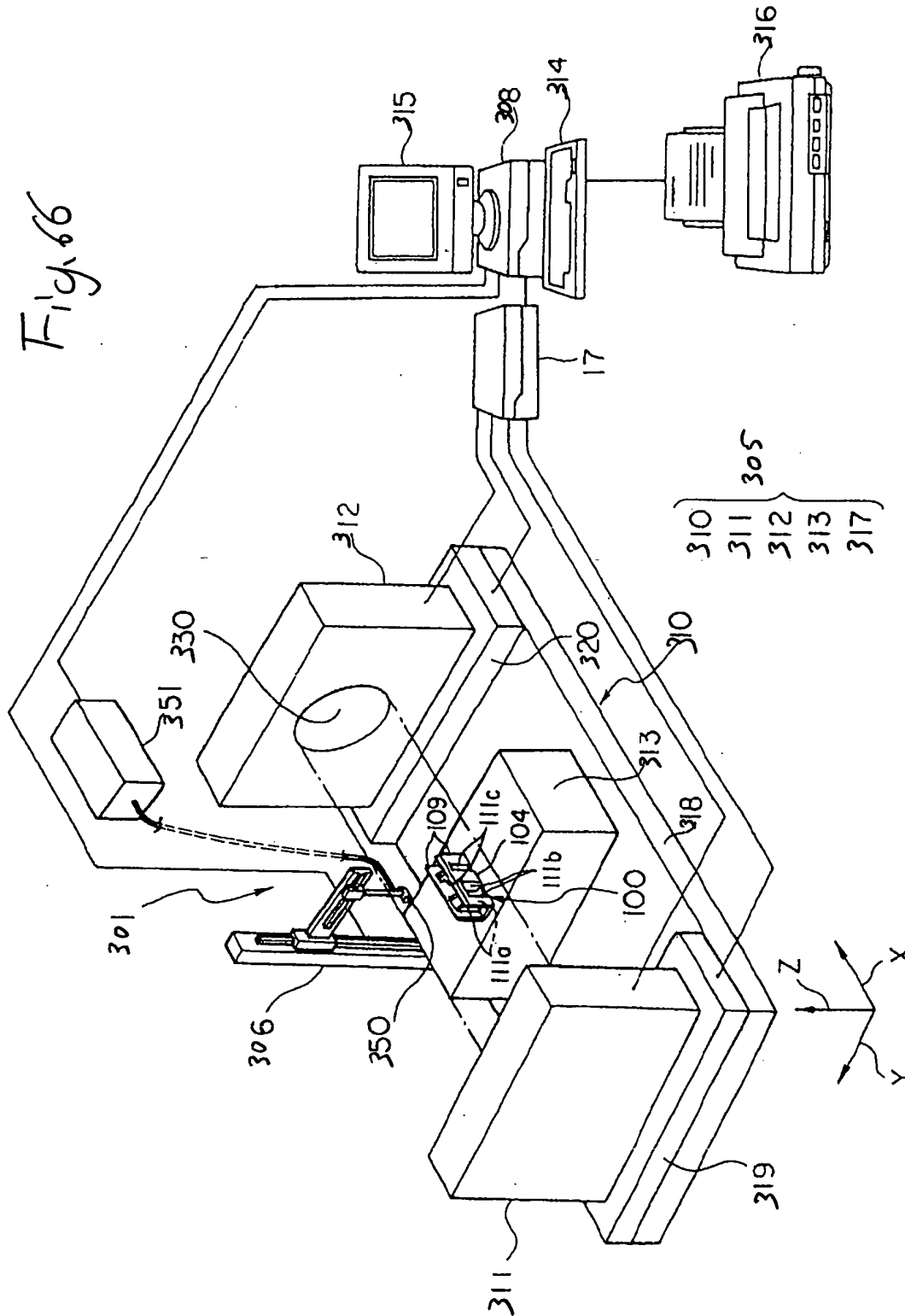
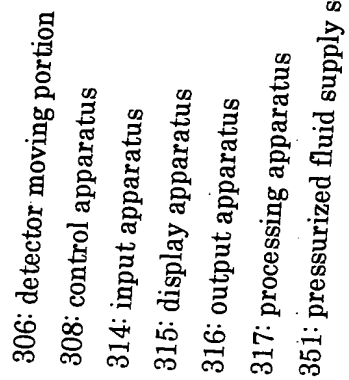
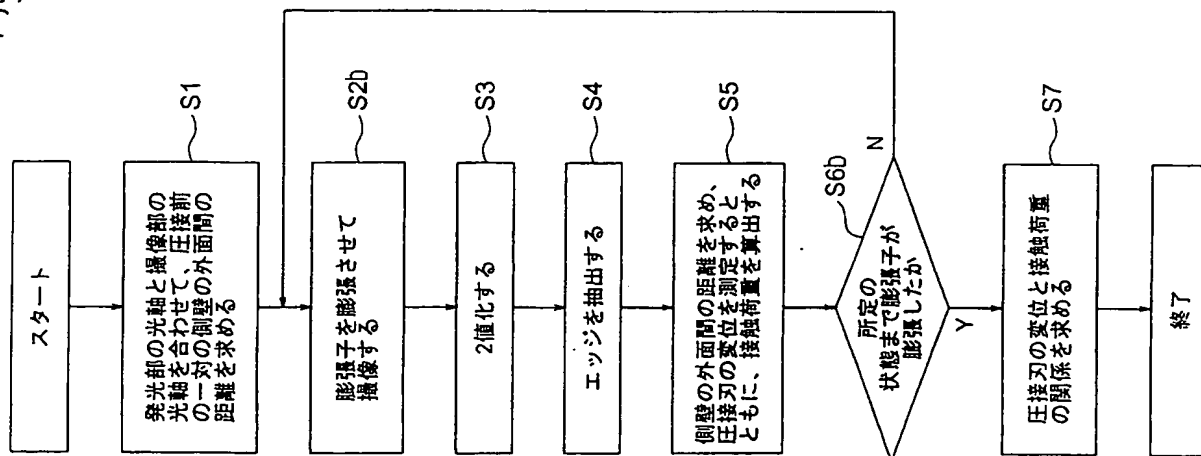


Fig. 6



【図28】

Fig. 68



start

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S2b: expand expander and pickup image thereof

S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load

S6a: is expander expanded in predetermined state?

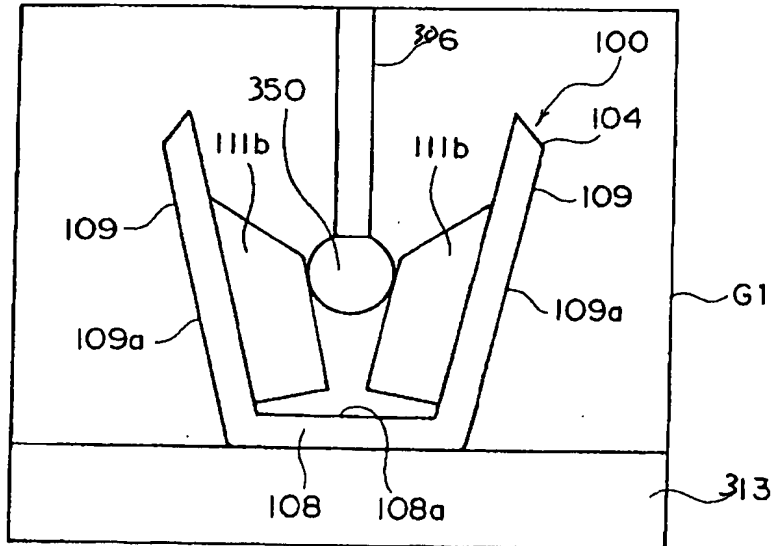
S7: acquire relationship between displacement of press contact blades and contact load

end

[書類名] 図面

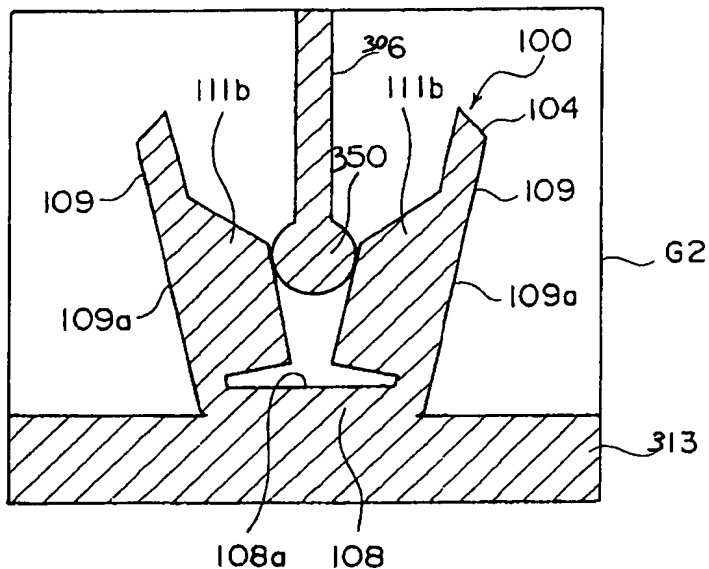
[特許] 2002-352873 (14. 12. 04)

~~FIG. 34~~ Fig. 69



【図35】

Fig. 20



【図36】

Fig. 21

